Student:          Teacher:          Date:

**1**

$$7^2 =$$

_____

**2** Solve for $x$

$$27 + x = 48$$

$x =$ _____

**3**

$$^-5 \bullet 14 =$$

_____

**4**

$$8^3 =$$

_____

**5** So•ve for $x$

$$5x = 80$$

$x =$ _____

**6**

$$^-3 \bullet {}^-9 =$$

_____

**7**

$$^-14 - 27 + 27 =$$

_____

**8** Solve for $x$

$$x \div 3 = 8$$

$x =$ _____

**9** Solve for $x$

$$3x = 36$$

$x =$ _____

**10** Solve for $x$

$$x - 34 = 9$$

$x =$ _____

**11** Convert to fraction

$$0.77 =$$

_____

**12**

$$^-5 + {}^-11 + {}^-13 =$$

_____

**13** Convert to decimal

$$\frac{4}{5} =$$

_____

**14** Convert to fraction

$$0.19 =$$

_____

**15** Write fraction as mixed number

$$\frac{15}{2} =$$

_____

**16**

$$18^2 =$$

_____

**17**

$$^-8 - {}^-4 - {}^-9 =$$

_____

**18** Solve for $x$

$$12 = 2x + 2$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{23}{4} =$$

_____

**20** Write the answer in lowest terms

$$\frac{4}{7} \bullet \frac{1}{8} =$$

_____

2 3 4 5 6 7 8 9 10 11 12 A B C D E     

**21**

40% of 65=

_____

**22** Write the answer in lowest terms

$$\frac{8}{3} \cdot \frac{9}{11} =$$

_____

**23** Solve for $x$

$$36 = 3x + 9$$

$x =$ _____

**24**

60% of 70=

_____

**25**

$$13^3 =$$

_____

**26**

180% of 110=

_____

**27**

$$\begin{array}{r} 1.011 \\ \times\ 0.11 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.32 \\ \times\ 0.3 \\ \hline \end{array}$$

**29**

195% of 120=

_____

**30** Convert to decimal

$$\frac{5}{8} =$$

_____

**31** Write the answer in lowest terms

$$\frac{7}{9} \div \frac{4}{5} =$$

_____

**32**

$$0.4\overline{\smash{)}0.44}$$

**33** Write the answer in lowest terms

$$1\frac{5}{12}$$
$$+\ 2\frac{2}{12}$$
$$\overline{\phantom{xxxx}}$$

**34**

$$5.1\overline{\smash{)}2.04}$$

**35** Write the answer in lowest terms

$$3\frac{4}{6}$$
$$-\ 2\frac{1}{3}$$
$$\overline{\phantom{xxxx}}$$

**36** Solve for $x$

$$\frac{x}{2} = 17$$

$x =$ _____

**37** Write the answer in lowest terms

$$1\frac{1}{3} \cdot 1\frac{1}{5} =$$

_____

**38** Write the answer in lowest terms

$$\frac{6}{8} \div \frac{4}{7} =$$

_____

**39** Write the answer in lowest terms

$$5\frac{5}{7}$$
$$+\ 1\frac{5}{14}$$
$$\overline{\phantom{xxxx}}$$

**40** Write the answer in lowest terms

$$7\frac{5}{10}$$
$$-\ 2\frac{4}{10}$$
$$\overline{\phantom{xxxx}}$$

2 3 4 5 6 7 8 9 10 11 12 A B C D E

Student: _____  Teacher: _____  Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 4 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 49 | 1 | 0 | 21. | 26 | 3 | 0 |
| 2. | 21 | 1 | 0 | 22. | $2\frac{2}{11}$ | 2 | 0 |
| 3. | ⁻70 | 1 | 0 | 23. | 9 | 2 | 0 |
| 4. | 512 | 1 | 0 | 24. | 42 | 3 | 0 |
| 5. | 16 | 1 | 0 | 25. | 2197 | 3 | 0 |
| 6. | 27 | 1 | 0 | 26. | 198 | 3 | 0 |
| 7. | ⁻14 | 2 | 0 | 27. | 0.11121 | 3 | 0 |
| 8. | 24 | 1 | 0 | 28. | 0.396 | 2 | 0 |
| 9. | 12 | 1 | 0 | 29. | 234 | 3 | 0 |
| 10. | 43 | 1 | 0 | 30. | 0.625 | 3 | 0 |
| 11. | $\frac{77}{100}$ | 1 | 0 | 31. | $\frac{35}{36}$ | 3 | 0 |
| 12. | ⁻29 | 1 | 0 | 32. | 1.1 | 3 | 0 |
| 13. | 0.8 | 1 | 0 | 33. | $3\frac{7}{12}$ | 2 | 0 |
| 14. | $\frac{19}{100}$ | 1 | 0 | 34. | 0.4 | 3 | 0 |
| 15. | $7\frac{1}{2}$ | 2 | 0 | 35. | $1\frac{1}{3}$ | 3 | 0 |
| 16. | 324 | 2 | 0 | 36. | 34 | 2 | 0 |
| 17. | 5 | 2 | 0 | 37. | $1\frac{3}{5}$ | 3 | 0 |
| 18. | 5 | 1 | 0 | 38. | $1\frac{5}{16}$ | 3 | 0 |
| 19. | $5\frac{3}{4}$ | 2 | 0 | 39. | $7\frac{1}{14}$ | 3 | 0 |
| 20. | $\frac{1}{14}$ | 2 | 0 | 40. | $5\frac{1}{10}$ | 2 | 0 |

Subtotal 1 [ ]

Subtotal 2 [ ]

**TOTAL = Subtotal 1 + Subtotal 2** [ ]

**1**

$$2^2 =$$

_____

**2** Solve for $x$

$$29 + x = 48$$

$x =$ _____

**3**

$$^-3 \bullet 14 =$$

_____

**4**

$$1^3 =$$

_____

**5** Solve for $x$

$$7x = 133$$

$x =$ _____

**6**

$$^-10 \bullet ^-7 =$$

_____

**7**

$$^-26 + ^-30 - 22 =$$

_____

**8** Solve for $x$

$$x \div 6 = 8$$

$x =$ _____

**9** Solve for $x$

$$3x = 63$$

$x =$ _____

**10** Solve for $x$

$$x - 29 = 4$$

$x =$ _____

**11** Convert to fraction

$$0.9 =$$

_____

**12**

$$^-11 + ^-5 + ^-4 =$$

_____

**13** Convert to decimal

$$\frac{6}{10} =$$

_____

**14** Convert to fraction

$$0.41 =$$

_____

**15** Write fraction as mixed number

$$\frac{26}{6} =$$

_____

**16**

$$19^2 =$$

_____

**17**

$$^-5 - ^-8 - ^-12 =$$

_____

**18** Solve for $x$

$$80 = 9x + 8$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{9}{5} =$$

_____

**20** Write the answer in lowest terms

$$\frac{2}{3} \bullet \frac{6}{7} =$$

_____

**21**

60% of 55=

_____

**22** Write the answer in lowest terms

$$\frac{5}{4} \cdot \frac{9}{11} =$$

_____

**23** Solve for $x$

$$58 = 8x + 2$$

$x =$ _____

**24**

20% of 15=

_____

**25**

$$17^3 =$$

_____

**26**

105% of 120=

_____

**27**

$$\begin{array}{r} 1.023 \\ \times\ 0.13 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.02 \\ \times\ 0.4 \\ \hline \end{array}$$

**29**

200% of 110=

_____

**30** Convert to decimal

$$\frac{3}{24} =$$

_____

**31** Write the answer in lowest terms

$$\frac{1}{5} \div \frac{8}{9} =$$

_____

**32**

$$0.4\overline{\smash{)}0.12}$$

**33** Write the answer in lowest terms

$$\begin{array}{r} 1\ \frac{3}{8} \\ +\ 2\ \frac{4}{8} \\ \hline \end{array}$$

**34**

$$4.5\overline{\smash{)}2.25}$$

**35** Write the answer in lowest terms

$$\begin{array}{r} 2\ \frac{3}{4} \\ -\ 1\ \frac{1}{2} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{2} = 16$$

$x =$ _____

**37** Write the answer in lowest terms

$$3\ \frac{1}{2} \cdot 3\ \frac{1}{4} =$$

_____

**38** Write the answer in lowest terms

$$\frac{6}{8} \div \frac{4}{7} =$$

_____

**39** Write the answer in lowest terms

$$\begin{array}{r} 18\ \frac{1}{2} \\ +\ 3\ \frac{5}{6} \\ \hline \end{array}$$

**40** Write the answer in lowest terms

$$\begin{array}{r} 6\ \frac{5}{8} \\ -\ 1\ \frac{2}{8} \\ \hline \end{array}$$

2 3 4 5 6 7 8 9 10 11 12 A B C D E

Student: _____     Teacher: _____     Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 5 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 4 | 1 | 0 | 21. | 33 | 3 | 0 |
| 2. | 19 | 1 | 0 | 22. | $1\frac{1}{44}$ | 2 | 0 |
| 3. | ⁻42 | 1 | 0 | 23. | 7 | 2 | 0 |
| 4. | 1 | 1 | 0 | 24. | 3 | 3 | 0 |
| 5. | 19 | 1 | 0 | 25. | 4913 | 3 | 0 |
| 6. | 70 | 1 | 0 | 26. | 126 | 3 | 0 |
| 7. | ⁻78 | 2 | 0 | 27. | 0.13299 | 3 | 0 |
| 8. | 48 | 1 | 0 | 28. | 0.408 | 2 | 0 |
| 9. | 21 | 1 | 0 | 29. | 220 | 3 | 0 |
| 10. | 33 | 1 | 0 | 30. | 0.125 | 3 | 0 |
| 11. | $\frac{9}{10}$ | 1 | 0 | 31. | $\frac{9}{40}$ | 3 | 0 |
| 12. | ⁻20 | 1 | 0 | 32. | 0.3 | 3 | 0 |
| 13. | 0.6 | 1 | 0 | 33. | $3\frac{7}{8}$ | 2 | 0 |
| 14. | $\frac{41}{100}$ | 1 | 0 | 34. | 0.5 | 3 | 0 |
| 15. | $4\frac{1}{3}$ | 2 | 0 | 35. | $1\frac{1}{4}$ | 3 | 0 |
| 16. | 361 | 2 | 0 | 36. | 32 | 2 | 0 |
| 17. | 15 | 2 | 0 | 37. | $11\frac{3}{8}$ | 3 | 0 |
| 18. | 8 | 1 | 0 | 38. | $1\frac{5}{16}$ | 3 | 0 |
| 19. | $1\frac{4}{5}$ | 2 | 0 | 39. | $22\frac{1}{3}$ | 3 | 0 |
| 20. | $\frac{4}{7}$ | 2 | 0 | 40. | $5\frac{3}{8}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL = Subtotal 1 + Subtotal 2** [ ]

Student: _____   Teacher: _____   Date: _____

| **1** | **2** Solve for $x$ | **3** | **4** |
|---|---|---|---|
| $9^2 =$ | $18 + x = 33$ | $^-7 \cdot 10 =$ | $7^3 =$ |
| _____ | $x =$ _____ | _____ | _____ |

| **5** Solve for $x$ | **6** | **7** | **8** Solve for $x$ |
|---|---|---|---|
| $3x = 60$ | $^-2 \cdot {}^-7 =$ | $^-6 + 19 - 1 =$ | $x \div 5 = 6$ |
| $x =$ _____ | _____ | _____ | $x =$ _____ |

| **9** Solve for $x$ | **10** Solve for $x$ | **11** Convert to fraction | **12** |
|---|---|---|---|
| $2x = 24$ | $x - 38 = 3$ | $0.17 =$ | $^-5 + {}^-10 + {}^-11 =$ |
| $x =$ _____ | $x =$ _____ | _____ | _____ |

| **13** Convert to decimal | **14** Convert to fraction | **15** Write fraction as mixed number | **16** |
|---|---|---|---|
| $\dfrac{7}{10} =$ | $0.3 =$ | $\dfrac{19}{3} =$ | $17^2 =$ |
| _____ | _____ | _____ | _____ |

| **17** | **18** Solve for $x$ | **19** Write fraction as mixed number | **20** Write the answer in lowest terms |
|---|---|---|---|
| $^-12 - {}^-7 - {}^-9 =$ | $9 = 2x + 3$ | $\dfrac{9}{6} =$ | $\dfrac{5}{6} \cdot \dfrac{5}{6} =$ |
| _____ | $x =$ _____ | _____ | _____ |

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2 3 4 5 6 7 8 9 10 11 12 A B C D E

**21**

45% of 80=

_____

**22** Write the answer in lowest terms

$$\frac{9}{2} \cdot \frac{3}{11} =$$

_____

**23** Solve for $x$

$$23 = 7x + 2$$

$x =$ _____

**24**

15% of 60=

_____

**25**

$$19^3 =$$

_____

**26**

110% of 110=

_____

**27**

$$\begin{array}{r} 1.021 \\ \times\ 0.11 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.24 \\ \times\ 0.3 \\ \hline \end{array}$$

**29**

185% of 120=

_____

**30** Convert to decimal

$$\frac{5}{8} =$$

_____

**31** Write the answer in lowest terms

$$\frac{1}{7} \div \frac{8}{9} =$$

_____

**32**

$$0.4\overline{)0.52}$$

**33** Write the answer in lowest terms

$$\begin{array}{r} 3\frac{1}{11} \\ +\ 2\frac{1}{11} \\ \hline \end{array}$$

**34**

$$1.2\overline{)3.12}$$

**35** Write the answer in lowest terms

$$\begin{array}{r} 3\frac{4}{5} \\ -\ 2\frac{4}{15} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{2} = 13$$

$x =$ _____

**37** Write the answer in lowest terms

$$1\frac{1}{2} \cdot 1\frac{2}{3} =$$

_____

**38** Write the answer in lowest terms

$$\frac{2}{4} \div \frac{1}{3} =$$

_____

**39** Write the answer in lowest terms

$$\begin{array}{r} 15\frac{3}{5} \\ +\ 2\frac{5}{10} \\ \hline \end{array}$$

**40** Write the answer in lowest terms

$$\begin{array}{r} 7\frac{5}{8} \\ -\ 1\frac{4}{8} \\ \hline \end{array}$$

Student: _____     Teacher: _____     Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 6 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 81 | 1 | 0 | 21. | 36 | 3 | 0 |
| 2. | 15 | 1 | 0 | 22. | $1\frac{5}{22}$ | 2 | 0 |
| 3. | ⁻70 | 1 | 0 | 23. | 3 | 2 | 0 |
| 4. | 343 | 1 | 0 | 24. | 9 | 3 | 0 |
| 5. | 20 | 1 | 0 | 25. | 6859 | 3 | 0 |
| 6. | 14 | 1 | 0 | 26. | 121 | 3 | 0 |
| 7. | 12 | 2 | 0 | 27. | 0.11231 | 3 | 0 |
| 8. | 30 | 1 | 0 | 28. | 0.372 | 2 | 0 |
| 9. | 12 | 1 | 0 | 29. | 222 | 3 | 0 |
| 10. | 41 | 1 | 0 | 30. | 0.625 | 3 | 0 |
| 11. | $\frac{17}{100}$ | 1 | 0 | 31. | $\frac{9}{56}$ | 3 | 0 |
| 12. | ⁻26 | 1 | 0 | 32. | 1.3 | 3 | 0 |
| 13. | 0.7 | 1 | 0 | 33. | $5\frac{2}{11}$ | 2 | 0 |
| 14. | $\frac{3}{10}$ | 1 | 0 | 34. | 2.6 | 3 | 0 |
| 15. | $6\frac{1}{3}$ | 2 | 0 | 35. | $1\frac{8}{15}$ | 3 | 0 |
| 16. | 289 | 2 | 0 | 36. | 26 | 2 | 0 |
| 17. | 4 | 2 | 0 | 37. | $2\frac{1}{2}$ | 3 | 0 |
| 18. | 3 | 1 | 0 | 38. | $1\frac{1}{2}$ | 3 | 0 |
| 19. | $1\frac{1}{2}$ | 2 | 0 | 39. | $18\frac{1}{10}$ | 3 | 0 |
| 20. | $\frac{25}{36}$ | 2 | 0 | 40. | $6\frac{1}{8}$ | 2 | 0 |

Subtotal 1 [ ]

Subtotal 2 [ ]

**TOTAL= Subtotal 1 + Subtotal 2** [ ]

Student: _____  Teacher: _____  Date: _____

**1**

$$3^2 =$$

_____

**2** Solve for $x$

$$18 + x = 22$$

$x =$ _____

**3**

$$^-5 \bullet 2 =$$

_____

**4**

$$9^3 =$$

_____

**5** Solve for $x$

$$5x = 60$$

$x =$ _____

**6**

$$^-2 \; ^-8 =$$

_____

**7**

$$^-5 - 9 + 2 =$$

_____

**8** Solve for $x$

$$x \div 8 = 4$$

$x =$ _____

**9** Solve for $x$

$$7x = 91$$

$x =$ _____

**10** Solve for $x$

$$x - 40 = 2$$

$x =$ _____

**11** Convert to fraction

$$0.73 =$$

_____

**12**

$$^-2 + {}^-19 + {}^-10 =$$

_____

**13** Convert to decimal

$$\frac{3}{5} =$$

_____

**14** Convert to fraction

$$0.13 =$$

_____

**15** Write fraction as mixed number

$$\frac{15}{6} =$$

_____

**16**

$$18^2 =$$

_____

**17**

$$^-14 - {}^-8 - {}^-2 =$$

_____

**18** Solve for $x$

$$68 = 8x + 4$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{16}{3} =$$

_____

**20** Write the answer in lowest terms

$$\frac{3}{4} \bullet \frac{2}{3} =$$

_____

**21**

70% of 10=

_____

**22** Write the answer in lowest terms

$$\frac{7}{2} \cdot \frac{9}{11} =$$

_____

**23** Solve for $x$

$$89 = 9x + 8$$

$x = $ _____

**24**

20% of 40=

_____

**25**

$$16^3 =$$

_____

**26**

110% of 160=

_____

**27**

$$\begin{array}{r} 1.005 \\ \times\ 0.12 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.21 \\ \times\ 0.3 \\ \hline \end{array}$$

**29**

120% of 170=

_____

**30** Convert to decimal

$$\frac{14}{16} =$$

_____

**31** Write the answer in lowest terms

$$\frac{1}{9} \div \frac{8}{9} =$$

_____

**32**

$$0.5\overline{)0.15}$$

**33** Write the answer in lowest terms

$$3\frac{5}{14}$$
$$+\ 6\frac{4}{14}$$

**34**

$$3.4\overline{)2.04}$$

**35** Write the answer in lowest terms

$$6\frac{2}{7}$$
$$-\ 5\frac{1}{14}$$

**36** Solve for $x$

$$\frac{x}{2} = 10$$

$x = $ _____

**37** Write the answer in lowest terms

$$3\frac{1}{3} \cdot 3\frac{1}{5} =$$

_____

**38** Write the answer in lowest terms

$$\frac{2}{3} \div \frac{3}{5} =$$

_____

**39** Write the answer in lowest terms

$$17\frac{1}{2}$$
$$+\ 3\frac{3}{4}$$

**40** Write the answer in lowest terms

$$7\frac{3}{4}$$
$$-\ 5\frac{2}{4}$$

Student:            Teacher:            Date:

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 7 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 9 | 1 | 0 | 21. | 7 | 3 | 0 |
| 2. | 4 | 1 | 0 | 22. | $2\frac{19}{22}$ | 2 | 0 |
| 3. | ⁻10 | 1 | 0 | 23. | 9 | 2 | 0 |
| 4. | 729 | 1 | 0 | 24. | 8 | 3 | 0 |
| 5. | 12 | 1 | 0 | 25. | 4096 | 3 | 0 |
| 6. | 16 | 1 | 0 | 26. | 176 | 3 | 0 |
| 7. | ⁻12 | 2 | 0 | 27. | 0.1206 | 3 | 0 |
| 8. | 32 | 1 | 0 | 28. | 0.363 | 2 | 0 |
| 9. | 13 | 1 | 0 | 29. | 204 | 3 | 0 |
| 10. | 42 | 1 | 0 | 30. | 0.875 | 3 | 0 |
| 11. | $\frac{73}{100}$ | 1 | 0 | 31. | $\frac{1}{8}$ | 3 | 0 |
| 12. | ⁻31 | 1 | 0 | 32. | 0.3 | 3 | 0 |
| 13. | 0.6 | 1 | 0 | 33. | $9\frac{9}{14}$ | 2 | 0 |
| 14. | $\frac{13}{100}$ | 1 | 0 | 34. | 0.6 | 3 | 0 |
| 15. | $2\frac{1}{2}$ | 2 | 0 | 35. | $1\frac{3}{14}$ | 3 | 0 |
| 16. | 324 | 2 | 0 | 36. | 20 | 2 | 0 |
| 17. | ⁻4 | 2 | 0 | 37. | $10\frac{2}{3}$ | 3 | 0 |
| 18. | 8 | 1 | 0 | 38. | $1\frac{1}{9}$ | 3 | 0 |
| 19. | $5\frac{1}{3}$ | 2 | 0 | 39. | $21\frac{1}{4}$ | 3 | 0 |
| 20. | $\frac{1}{2}$ | 2 | 0 | 40. | $2\frac{1}{4}$ | 2 | 0 |

**Subtotal 1** [   ]

**Subtotal 2** [   ]

**TOTAL = Subtotal 1 + Subtotal 2** [   ]

Student: _____  Teacher: _____  Date: _____

**1**

$$7^2 =$$

_____

**2** Solve for $x$

$$6 + x = 42$$

$x =$ _____

**3**

$$^-8 \cdot 3 =$$

_____

**4**

$$2^3 =$$

_____

**5** Solve for $x$

$$3x = 84$$

$x =$ _____

**6**

$$^-3 \cdot {}^-7 =$$

_____

**7**

$$^-2 - {}^-21 + 28 =$$

_____

**8** Solve for $x$

$$x \div 2 = 9$$

$x =$ _____

**9** Solve for $x$

$$2x = 58$$

$x =$ _____

**10** Solve for $x$

$$x - 28 = 5$$

$x =$ _____

**11** Convert to fraction

$$0.37 =$$

_____

**12**

$$^-3 + {}^-15 + {}^-2 =$$

_____

**13** Convert to decimal

$$\frac{2}{4} =$$

_____

**14** Convert to fraction

$$0.3 =$$

_____

**15** Write fraction as mixed number

$$\frac{22}{8} =$$

_____

**16**

$$16^2 =$$

_____

**17**

$$^-12 - {}^-16 - {}^-1 =$$

_____

**18** Solve for $x$

$$47 = 5x + 2$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{40}{3} =$$

_____

**20** Write the answer in lowest terms

$$\frac{1}{2} \cdot \frac{5}{8} =$$

_____

**21**

20% of 35=

_____

**22** Write the answer in lowest terms

$$\frac{9}{3} \cdot \frac{8}{11} =$$

_____

**23** Solve for $x$

$$67 = 8x + 3$$

$x =$ _____

**24**

10% of 70=

_____

**25**

$$13^3 =$$

_____

**26**

145% of 120=

_____

**27**

$$\begin{array}{r} 1.005 \\ \times\, 0.15 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.32 \\ \times\, 0.1 \\ \hline \end{array}$$

**29**

200% of 150=

_____

**30** Convert to decimal

$$\frac{14}{16} =$$

_____

**31** Write the answer in lowest terms

$$\frac{4}{6} \div \frac{6}{7} =$$

_____

**32**

$$0.3\overline{)0.33}$$

**33** Write the answer in lowest terms

$$1\frac{3}{14}$$
$$+\, 2\frac{2}{14}$$
_____

**34**

$$2.5\overline{)2.25}$$

**35** Write the answer in lowest terms

$$5\frac{2}{3}$$
$$-\, 1\frac{1}{6}$$
_____

**36** Solve for $x$

$$\frac{x}{7} = 4$$

$x =$ _____

**37** Write the answer in lowest terms

$$3\frac{2}{9} \cdot 4\frac{4}{7} =$$

_____

**38** Write the answer in lowest terms

$$\frac{8}{9} \div \frac{4}{9} =$$

_____

**39** Write the answer in lowest terms

$$4\frac{3}{4}$$
$$+\, 2\frac{5}{12}$$
_____

**40** Write the answer in lowest terms

$$4\frac{4}{5}$$
$$-\, 1\frac{1}{5}$$
_____

Student: _____ Teacher: _____ Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 8 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 49 | 1 | 0 | 21. | 7 | 3 | 0 |
| 2. | 36 | 1 | 0 | 22. | $2\frac{2}{11}$ | 2 | 0 |
| 3. | $^-24$ | 1 | 0 | 23. | 8 | 2 | 0 |
| 4. | 8 | 1 | 0 | 24. | 7 | 3 | 0 |
| 5. | 28 | 1 | 0 | 25. | 2197 | 3 | 0 |
| 6. | 21 | 1 | 0 | 26. | 174 | 3 | 0 |
| 7. | 47 | 2 | 0 | 27. | 0.15075 | 3 | 0 |
| 8. | 18 | 1 | 0 | 28. | 0.132 | 2 | 0 |
| 9. | 29 | 1 | 0 | 29. | 300 | 3 | 0 |
| 10. | 33 | 1 | 0 | 30. | 0.875 | 3 | 0 |
| 11. | $\frac{37}{100}$ | 1 | 0 | 31. | $\frac{7}{9}$ | 3 | 0 |
| 12. | $^-20$ | 1 | 0 | 32. | 1.1 | 3 | 0 |
| 13. | 0.5 | 1 | 0 | 33. | $3\frac{5}{14}$ | 2 | 0 |
| 14. | $\frac{3}{10}$ | 1 | 0 | 34. | 0.9 | 3 | 0 |
| 15. | $2\frac{3}{4}$ | 2 | 0 | 35. | $4\frac{1}{2}$ | 3 | 0 |
| 16. | 256 | 2 | 0 | 36. | 28 | 2 | 0 |
| 17. | 5 | 2 | 0 | 37. | $14\frac{46}{63}$ | 3 | 0 |
| 18. | 9 | 1 | 0 | 38. | 2 | 3 | 0 |
| 19. | $13\frac{1}{3}$ | 2 | 0 | 39. | $7\frac{1}{6}$ | 3 | 0 |
| 20. | $\frac{5}{16}$ | 2 | 0 | 40. | $3\frac{3}{5}$ | 2 | 0 |

**Subtotal 1** [____]

**Subtotal 2** [____]

**TOTAL = Subtotal 1 + Subtotal 2** [____]

| **1** $5^2 =$ _____ | **2** Solve for $x$ $28 + x = 47$ $x =$ _____ | **3** $^-5 \cdot 17 =$ _____ | **4** $6^3 =$ _____ |
|---|---|---|---|
| **5** Solve for $x$ $4x = 72$ $x =$ _____ | **6** $^-4 \cdot {}^-7 =$ _____ | **7** $^-3 + {}^-22 - 25 =$ _____ | **8** Solve for $x$ $x \div 4 = 10$ $x =$ _____ |
| **9** Solve for $x$ $2x = 90$ $x =$ _____ | **10** Solve for $x$ $x - 19 = 5$ $x =$ _____ | **11** Convert to fraction $0.93 =$ _____ | **12** $^-6 + {}^-9 + {}^-12 =$ _____ |
| **13** Convert to decimal $\dfrac{9}{10} =$ _____ | **14** Convert to fraction $0.67 =$ _____ | **15** Write fraction as mixed number $\dfrac{27}{4} =$ _____ | **16** $10^2 =$ _____ |
| **17** $^-16 - {}^-7 - {}^-2 =$ _____ | **18** Solve for $x$ $84 = 9x + 3$ $x =$ _____ | **19** Write fraction as mixed number $\dfrac{11}{6} =$ _____ | **20** Write the answer in lowest terms $\dfrac{3}{5} \cdot \dfrac{7}{10} =$ _____ |

**21**

20% of 25=

_____

**22** Write the answer in lowest terms

$$\frac{8}{4} \cdot \frac{9}{11} =$$

_____

**23** Solve for $x$

$$63 = 8x + 7$$

$x = $ _____

**24**

30% of 40=

_____

**25**

$$20^3 =$$

_____

**26**

115% of 180=

_____

**27**

$$\begin{array}{r} 1.002 \\ \times\ 0.14 \\ \hline \end{array}$$

_____

**28**

$$\begin{array}{r} 1.24 \\ \times\ 0.2 \\ \hline \end{array}$$

_____

**29**

180% of 140=

_____

**30** Convert to decimal

$$\frac{3}{8} =$$

_____

**31** Write the answer in lowest terms

$$\frac{2}{7} \div \frac{6}{7} =$$

_____

**32**

$$0.4\overline{\smash{)}0.24}$$

**33** Write the answer in lowest terms

$$\begin{array}{r} 2\frac{1}{3} \\ +\ 2\frac{1}{3} \\ \hline \end{array}$$

**34**

$$1.3\overline{\smash{)}2.21}$$

**35** Write the answer in lowest terms

$$\begin{array}{r} 5\frac{4}{9} \\ -\ 4\frac{1}{3} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{3} = 7$$

$x = $ _____

**37** Write the answer in lowest terms

$$1\frac{1}{3} \cdot 1\frac{3}{4} =$$

_____

**38** Write the answer in lowest terms

$$\frac{8}{9} \div \frac{2}{6} =$$

_____

**39** Write the answer in lowest terms

$$\begin{array}{r} 6\frac{5}{8} \\ +\ 2\frac{5}{16} \\ \hline \end{array}$$

**40** Write the answer in lowest terms

$$\begin{array}{r} 5\frac{5}{8} \\ -\ 3\frac{3}{8} \\ \hline \end{array}$$

2 3 4 5 6 7 8 9 10 11 12 A B C D E    

Student: _____    Teacher: _____    Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 9 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 25 | 1 | 0 | 21. | 5 | 3 | 0 |
| 2. | 19 | 1 | 0 | 22. | $1\frac{7}{11}$ | 2 | 0 |
| 3. | ⁻85 | 1 | 0 | 23. | 7 | 2 | 0 |
| 4. | 216 | 1 | 0 | 24. | 12 | 3 | 0 |
| 5. | 18 | 1 | 0 | 25. | 8000 | 3 | 0 |
| 6. | 28 | 1 | 0 | 26. | 207 | 3 | 0 |
| 7. | ⁻50 | 2 | 0 | 27. | 0.14028 | 3 | 0 |
| 8. | 40 | 1 | 0 | 28. | 0.248 | 2 | 0 |
| 9. | 45 | 1 | 0 | 29. | 252 | 3 | 0 |
| 10. | 24 | 1 | 0 | 30. | 0.375 | 3 | 0 |
| 11. | $\frac{93}{100}$ | 1 | 0 | 31. | $\frac{1}{3}$ | 3 | 0 |
| 12. | ⁻27 | 1 | 0 | 32. | 0.6 | 3 | 0 |
| 13. | 0.9 | 1 | 0 | 33. | $4\frac{2}{3}$ | 2 | 0 |
| 14. | $\frac{67}{100}$ | 1 | 0 | 34. | 1.7 | 3 | 0 |
| 15. | $6\frac{3}{4}$ | 2 | 0 | 35. | $1\frac{1}{9}$ | 3 | 0 |
| 16. | 100 | 2 | 0 | 36. | 21 | 2 | 0 |
| 17. | ⁻7 | 2 | 0 | 37. | $2\frac{1}{3}$ | 3 | 0 |
| 18. | 9 | 1 | 0 | 38. | $2\frac{2}{3}$ | 3 | 0 |
| 19. | $1\frac{5}{6}$ | 2 | 0 | 39. | $8\frac{15}{16}$ | 3 | 0 |
| 20. | $\frac{21}{50}$ | 2 | 0 | 40. | $2\frac{1}{4}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL = Subtotal 1 + Subtotal 2** [ ]

Student: _____ Teacher: _____ Date: _____

**1**

$$4^2 \;=$$

_____

**2** Solve for $x$

$$7 + x = 45$$

$x = $ _____

**3**

$$^-12 \cdot 4 =$$

_____

**4**

$$1^3 \;=$$

_____

**5** Solve for $x$

$$7x = 84$$

$x = $ _____

**6**

$$^-3 \cdot {}^-10 =$$

_____

**7**

$$^-23 + {}^-16 - 12 =$$

_____

**8** Solve for $x$

$$x \div 3 = 12$$

$x = $ _____

**9** Solve for $x$

$$5x = 85$$

$x = $ _____

**10** Solve for $x$

$$x - 6 = 26$$

$x = $ _____

**11** Convert to fraction

$$0.37 =$$

_____

**12**

$$^-2 + {}^-17 + {}^-6 =$$

_____

**13** Convert to decimal

$$\frac{4}{8} =$$

_____

**14** Convert to fraction

$$0.47 =$$

_____

**15** Write fraction as mixed number

$$\frac{39}{4} =$$

_____

**16**

$$11^2 \;=$$

_____

**17**

$$^-3 - {}^-16 - {}^-6 =$$

_____

**18** Solve for $x$

$$24 = 2x + 8$$

$x = $ _____

**19** Write fraction as mixed number

$$\frac{27}{6} =$$

_____

**20** Write the answer in lowest terms

$$\frac{2}{3} \cdot \frac{5}{7} =$$

_____

AIMSweb® Math Computation
2 3 4 5 6 7 8 9 10 11 12 A B C D E

**21**

25% of 20=

_____

**22** Write the answer in lowest terms

$$\frac{8}{6} \cdot \frac{9}{11} =$$

_____

**23** Solve for $x$

$$38 = 9x + 2$$

$x =$ _____

**24**

10% of 60=

_____

**25**

$$10^3 =$$

_____

**26**

120% of 120=

_____

**27**

$$\begin{array}{r} 1.005 \\ \times\, 0.14 \\ \hline \end{array}$$

_____

**28**

$$\begin{array}{r} 1.01 \\ \times\, 0.4 \\ \hline \end{array}$$

_____

**29**

180% of 120=

_____

**30** Convert to decimal

$$\frac{10}{16} =$$

_____

**31** Write the answer in lowest terms

$$\frac{6}{9} \div \frac{6}{8} =$$

_____

**32**

$$0.2\,\overline{)\,0.12}$$

**33** Write the answer in lowest terms

$$\begin{array}{r} 5\,\frac{3}{13} \\ +\, 2\,\frac{4}{13} \\ \hline \end{array}$$

**34**

$$2.2\,\overline{)\,1.32}$$

**35** Write the answer in lowest terms

$$\begin{array}{r} 5\,\frac{1}{2} \\ -\, 4\,\frac{1}{4} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{2} = 22$$

$x =$ _____

**37** Write the answer in lowest terms

$$4\,\frac{1}{3} \cdot 4\,\frac{1}{4} =$$

_____

**38** Write the answer in lowest terms

$$\frac{9}{10} \div \frac{3}{4} =$$

_____

**39** Write the answer in lowest terms

$$\begin{array}{r} 14\,\frac{2}{3} \\ +\, 3\,\frac{5}{6} \\ \hline \end{array}$$

**40** Write the answer in lowest terms

$$\begin{array}{r} 5\,\frac{5}{8} \\ -\, 3\,\frac{3}{8} \\ \hline \end{array}$$

Student: _____      Teacher: _____      Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 10 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 16 | 1 | 0 | 21. | 5 | 3 | 0 |
| 2. | 38 | 1 | 0 | 22. | $1\frac{1}{11}$ | 2 | 0 |
| 3. | −48 | 1 | 0 | 23. | 4 | 2 | 0 |
| 4. | 1 | 1 | 0 | 24. | 6 | 3 | 0 |
| 5. | 12 | 1 | 0 | 25. | 1000 | 3 | 0 |
| 6. | 30 | 1 | 0 | 26. | 144 | 3 | 0 |
| 7. | −51 | 2 | 0 | 27. | 0.1407 | 3 | 0 |
| 8. | 36 | 1 | 0 | 28. | 0.404 | 2 | 0 |
| 9. | 17 | 1 | 0 | 29. | 216 | 3 | 0 |
| 10. | 32 | 1 | 0 | 30. | 0.625 | 3 | 0 |
| 11. | $\frac{37}{100}$ | 1 | 0 | 31. | $\frac{8}{9}$ | 3 | 0 |
| 12. | −25 | 1 | 0 | 32. | 0.6 | 3 | 0 |
| 13. | 0.5 | 1 | 0 | 33. | $7\frac{7}{13}$ | 2 | 0 |
| 14. | $\frac{47}{100}$ | 1 | 0 | 34. | 0.6 | 3 | 0 |
| 15. | $9\frac{3}{4}$ | 2 | 0 | 35. | $1\frac{1}{4}$ | 3 | 0 |
| 16. | 121 | 2 | 0 | 36. | 44 | 2 | 0 |
| 17. | 19 | 2 | 0 | 37. | $18\frac{5}{12}$ | 3 | 0 |
| 18. | 8 | 1 | 0 | 38. | $1\frac{1}{5}$ | 3 | 0 |
| 19. | $4\frac{1}{2}$ | 2 | 0 | 39. | $18\frac{1}{2}$ | 3 | 0 |
| 20. | $\frac{10}{21}$ | 2 | 0 | 40. | $2\frac{1}{4}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL= Subtotal 1 + Subtotal 2** [ ]

**1**

$$3^2 =$$

_____

**2** Solve for $x$

$$36 + x = 72$$

$x =$ _____

**3**

$$^-8 \cdot 8 =$$

_____

**4**

$$2^3 =$$

_____

**5** Solve for $x$

$$3x = 126$$

$x =$ _____

**6**

$$^-3 \cdot {}^-5 =$$

_____

**7**

$$^-30 - 30 + 10 =$$

_____

**8** Solve for $x$

$$x \div 2 = 10$$

$x =$ _____

**9** Solve for $x$

$$2x = 38$$

$x =$ _____

**10** Solve for $x$

$$x - 17 = 5$$

$x =$ _____

**11** Convert to fraction

$$0.7 =$$

_____

**12**

$$^-2 + {}^-17 + {}^-6 =$$

_____

**13** Convert to decimal

$$\frac{3}{10} =$$

_____

**14** Convert to fraction

$$0.11 =$$

_____

**15** Write fraction as mixed number

$$\frac{23}{6} =$$

_____

**16**

$$14^2 =$$

_____

**17**

$$^-15 - {}^-10 - {}^-2 =$$

_____

**18** Solve for $x$

$$42 = 5x + 2$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{32}{5} =$$

_____

**20** Write the answer in lowest terms

$$\frac{1}{3} \cdot \frac{6}{7} =$$

_____

**21**

70% of 70=

_____

**22** Write the answer in lowest terms

$$\frac{5}{3} \cdot \frac{7}{11} =$$

_____

**23** Solve for $x$

$$21 = 2x + 9$$

$x =$ _____

**24**

45% of 60=

_____

**25**

$13^3 =$

_____

**26**

110% of 160=

_____

**27**

$$\begin{array}{r} 1.402 \\ \times\ 0.50 \\ \hline \end{array}$$

_____

**28**

$$\begin{array}{r} 1.32 \\ \times\ 0.4 \\ \hline \end{array}$$

_____

**29**

120% of 110=

_____

**30** Convert to decimal

$$\frac{7}{8} =$$

_____

**31** Write the answer in lowest terms

$$\frac{2}{4} \div \frac{5}{6} =$$

_____

**32**

$0.2\overline{)0.54}$

**33** Write the answer in lowest terms

$$11\ \frac{5}{14}$$
$$+\ 6\ \frac{8}{14}$$
$$\overline{\phantom{xxxx}}$$

**34**

$3.4\overline{)2.04}$

**35** Write the answer in lowest terms

$$5\ \frac{5}{6}$$
$$-\ 2\ \frac{2}{3}$$
$$\overline{\phantom{xxxx}}$$

**36** Solve for $x$

$$\frac{x}{9} = 5$$

$x =$ _____

**37** Write the answer in lowest terms

$$3\ \frac{4}{5} \cdot 2\ \frac{1}{3} =$$

_____

**38** Write the answer in lowest terms

$$\frac{5}{6} \div \frac{7}{9} =$$

_____

**39** Write the answer in lowest terms

$$13\ \frac{1}{10}$$
$$+\ 5\ \frac{17}{20}$$
$$\overline{\phantom{xxxx}}$$

**40** Write the answer in lowest terms

$$7\ \frac{8}{13}$$
$$-\ 4\ \frac{3}{13}$$
$$\overline{\phantom{xxxx}}$$

Student: _____     Teacher: _____     Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 11 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 9 | 1 | 0 | 21. | 49 | 3 | 0 |
| 2. | 36 | 1 | 0 | 22. | $1\frac{2}{33}$ | 2 | 0 |
| 3. | ⁻64 | 1 | 0 | 23. | 6 | 2 | 0 |
| 4. | 8 | 1 | 0 | 24. | 27 | 3 | 0 |
| 5. | 42 | 1 | 0 | 25. | 2197 | 3 | 0 |
| 6. | 15 | 1 | 0 | 26. | 176 | 3 | 0 |
| 7. | ⁻50 | 2 | 0 | 27. | 0.701 | 3 | 0 |
| 8. | 20 | 1 | 0 | 28. | 0.528 | 2 | 0 |
| 9. | 19 | 1 | 0 | 29. | 132 | 3 | 0 |
| 10. | 22 | 1 | 0 | 30. | 0.875 | 3 | 0 |
| 11. | $\frac{7}{10}$ | 1 | 0 | 31. | $\frac{3}{5}$ | 3 | 0 |
| 12. | ⁻25 | 1 | 0 | 32. | 2.7 | 3 | 0 |
| 13. | 0.3 | 1 | 0 | 33. | $17\frac{13}{14}$ | 2 | 0 |
| 14. | $\frac{11}{100}$ | 1 | 0 | 34. | 0.6 | 3 | 0 |
| 15. | $3\frac{5}{6}$ | 2 | 0 | 35. | $3\frac{1}{6}$ | 3 | 0 |
| 16. | 196 | 2 | 0 | 36. | 45 | 2 | 0 |
| 17. | ⁻3 | 2 | 0 | 37. | $8\frac{13}{15}$ | 3 | 0 |
| 18. | 8 | 1 | 0 | 38. | $1\frac{1}{14}$ | 3 | 0 |
| 19. | $6\frac{2}{5}$ | 2 | 0 | 39. | $18\frac{19}{20}$ | 3 | 0 |
| 20. | $\frac{2}{7}$ | 2 | 0 | 40. | $3\frac{5}{13}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL = Subtotal 1 + Subtotal 2** [ ]

Student: _____  Teacher: _____  Date: _____

**1**

$$9^2 =$$

_____

**2** Solve for $x$

$$25 + x = 32$$

$x =$ _____

**3**

$$^-7 \bullet 4 =$$

_____

**4**

$$4^3 =$$

_____

**5** Solve for $x$

$$6x = 90$$

$x =$ _____

**6**

$$^-5 \bullet {}^-12 =$$

_____

**7**

$$^-10 + 23 - 18 =$$

_____

**8** Solve for $x$

$$x \div 6 = 5$$

$x =$ _____

**9** Solve for $x$

$$2x = 26$$

$x =$ _____

**10** Solve for $x$

$$x - 8 = 27$$

$x =$ _____

**11** Convert to fraction

$$0.93 =$$

_____

**12**

$$^-9 + {}^-11 + {}^-1 =$$

_____

**13** Convert to decimal

$$\frac{4}{5} =$$

_____

**14** Convert to fraction

$$0.19 =$$

_____

**15** Write fraction as mixed number

$$\frac{21}{2} =$$

_____

**16**

$$18^2 =$$

_____

**17**

$$^-6 - {}^-12 - {}^-20 =$$

_____

**18** Solve for $x$

$$29 = 5x + 4$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{28}{3} =$$

_____

**20** Write the answer in lowest terms

$$\frac{1}{3} \bullet \frac{4}{7} =$$

_____

**21**

55% of 20=

_____

**22** Write the answer in lowest terms

$$\frac{9}{5} \bullet \frac{9}{11} =$$

_____

**23** Solve for $x$

$$52 = 7x + 3$$

$x =$ _____

**24**

45% of 60=

_____

**25**

$15^3 =$

_____

**26**

150% of 140=

_____

**27**

$$\begin{array}{r} 1.002 \\ \times\ 0.11 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.23 \\ \times\ 0.2 \\ \hline \end{array}$$

**29**

190% of 160=

_____

**30** Convert to decimal

$$\frac{15}{24} =$$

_____

**31** Write the answer in lowest terms

$$\frac{2}{6} \div \frac{6}{8} =$$

_____

**32**

$0.3\overline{)0.42}$

**33** Write the answer in lowest terms

$$6\ \frac{1}{9}$$
$$+\ 2\ \frac{1}{9}$$
$$\overline{\phantom{xxxx}}$$

**34**

$4.1\overline{)1.23}$

**35** Write the answer in lowest terms

$$3\ \frac{4}{9}$$
$$-\ 2\ \frac{1}{3}$$
$$\overline{\phantom{xxxx}}$$

**36** Solve for $x$

$$\frac{x}{2} = 20$$

$x =$ _____

**37** Write the answer in lowest terms

$$4\ \frac{1}{5} \bullet 5\ \frac{2}{3} =$$

_____

**38** Write the answer in lowest terms

$$\frac{9}{10} \div \frac{6}{7} =$$

_____

**39** Write the answer in lowest terms

$$6\ \frac{3}{4}$$
$$+\ 1\ \frac{5}{16}$$
$$\overline{\phantom{xxxx}}$$

**40** Write the answer in lowest terms

$$6\ \frac{4}{6}$$
$$-\ 2\ \frac{3}{6}$$
$$\overline{\phantom{xxxx}}$$

Student:                          Teacher:                          Date:

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 12 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 81 | 1 | 0 | 21. | 11 | 3 | 0 |
| 2. | 7 | 1 | 0 | 22. | $1\frac{26}{55}$ | 2 | 0 |
| 3. | ‾28 | 1 | 0 | 23. | 7 | 2 | 0 |
| 4. | 64 | 1 | 0 | 24. | 27 | 3 | 0 |
| 5. | 15 | 1 | 0 | 25. | 3375 | 3 | 0 |
| 6. | 60 | 1 | 0 | 26. | 210 | 3 | 0 |
| 7. | ‾5 | 2 | 0 | 27. | 0.11022 | 3 | 0 |
| 8. | 30 | 1 | 0 | 28. | 0.246 | 2 | 0 |
| 9. | 13 | 1 | 0 | 29. | 304 | 3 | 0 |
| 10. | 35 | 1 | 0 | 30. | 0.625 | 3 | 0 |
| 11. | $\frac{93}{100}$ | 1 | 0 | 31. | $\frac{4}{9}$ | 3 | 0 |
| 12. | ‾21 | 1 | 0 | 32. | 1.4 | 3 | 0 |
| 13. | 0.8 | 1 | 0 | 33. | $8\frac{2}{9}$ | 2 | 0 |
| 14. | $\frac{19}{100}$ | 1 | 0 | 34. | 0.3 | 3 | 0 |
| 15. | $10\frac{1}{2}$ | 2 | 0 | 35. | $1\frac{1}{9}$ | 3 | 0 |
| 16. | 324 | 2 | 0 | 36. | 40 | 2 | 0 |
| 17. | 26 | 2 | 0 | 37. | $23\frac{4}{5}$ | 3 | 0 |
| 18. | 5 | 1 | 0 | 38. | $1\frac{1}{20}$ | 3 | 0 |
| 19. | $9\frac{1}{3}$ | 2 | 0 | 39. | $8\frac{1}{16}$ | 3 | 0 |
| 20. | $\frac{4}{21}$ | 2 | 0 | 40. | $4\frac{1}{6}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL = Subtotal 1 + Subtotal 2** [ ]

**1**

$$2^2 =$$

_____

**2** Solve for $x$

$$37 + x = 42$$

$$x = \underline{\hspace{2cm}}$$

**3**

$$^-8 \cdot 2 =$$

_____

**4**

$$9^3 =$$

_____

**5** Solve for $x$

$$6x = 84$$

$$x = \underline{\hspace{2cm}}$$

**6**

$$^-4 \cdot {}^-8 =$$

_____

**7**

$$^-1 + {}^-12 - 24 =$$

_____

**8** Solve for $x$

$$x \div 3 = 11$$

$$x = \underline{\hspace{2cm}}$$

**9** Solve for $x$

$$4x = 64$$

$$x = \underline{\hspace{2cm}}$$

**10** Solve for $x$

$$x - 33 = 7$$

$$x = \underline{\hspace{2cm}}$$

**11** Convert to fraction

$$0.53 =$$

_____

**12**

$$^-9 + {}^-6 + {}^-13 =$$

_____

**13** Convert to decimal

$$\frac{8}{10} =$$

_____

**14** Convert to fraction

$$0.31 =$$

_____

**15** Write fraction as mixed number

$$\frac{25}{2} =$$

_____

**16**

$$18^2 =$$

_____

**17**

$$^-20 - {}^-7 - {}^-4 =$$

_____

**18** Solve for $x$

$$51 = 7x + 2$$

$$x = \underline{\hspace{2cm}}$$

**19** Write fraction as mixed number

$$\frac{19}{4} =$$

_____

**20** Write the answer in lowest terms

$$\frac{1}{3} \cdot \frac{5}{6} =$$

_____

**21**

75% of 24=

_____

**22** Write the answer in lowest terms

$$\frac{6}{2} \cdot \frac{9}{11} =$$

_____

**23** Solve for $x$

$$28 = 6x + 4$$

$x =$ _____

**24**

40% of 50=

_____

**25**

$$12^3 =$$

_____

**26**

110% of 150=

_____

**27**

$$\begin{array}{r} 1.001 \\ \times\ 0.15 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.32 \\ \times\ 0.2 \\ \hline \end{array}$$

**29**

175% of 140=

_____

**30** Convert to decimal

$$\frac{3}{24} =$$

_____

**31** Write the answer in lowest terms

$$\frac{3}{9} \div \frac{8}{9} =$$

_____

**32**

$$0.2\,\overline{)\,0.34}$$

**33** Write the answer in lowest terms

$$\begin{array}{r} 3\ \frac{2}{7} \\ +\ 2\ \frac{4}{7} \\ \hline \end{array}$$

**34**

$$5.2\,\overline{)\,3.12}$$

**35** Write the answer in lowest terms

$$\begin{array}{r} 3\ \frac{4}{5} \\ -\ 2\ \frac{4}{15} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{9} = 5$$

$x =$ _____

**37** Write the answer in lowest terms

$$3\ \frac{1}{3} \cdot 3\ \frac{1}{5} =$$

_____

**38** Write the answer in lowest terms

$$\frac{9}{10} \div \frac{5}{6} =$$

_____

**39** Write the answer in lowest terms

$$\begin{array}{r} 2\ \frac{3}{4} \\ +\ 3\ \frac{5}{8} \\ \hline \end{array}$$

**40** Write the answer in lowest terms

$$\begin{array}{r} 4\ \frac{4}{5} \\ -\ 1\ \frac{1}{5} \\ \hline \end{array}$$

Student: _____  Teacher: _____  Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 13 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 4 | 1 | 0 | 21. | 18 | 3 | 0 |
| 2. | 5 | 1 | 0 | 22. | $2\frac{5}{11}$ | 2 | 0 |
| 3. | ⁻16 | 1 | 0 | 23. | 4 | 2 | 0 |
| 4. | 729 | 1 | 0 | 24. | 20 | 3 | 0 |
| 5. | 14 | 1 | 0 | 25. | 1728 | 3 | 0 |
| 6. | 32 | 1 | 0 | 26. | 165 | 3 | 0 |
| 7. | ⁻37 | 2 | 0 | 27. | 0.15015 | 3 | 0 |
| 8. | 33 | 1 | 0 | 28. | 0.264 | 2 | 0 |
| 9. | 16 | 1 | 0 | 29. | 245 | 3 | 0 |
| 10. | 40 | 1 | 0 | 30. | 0.125 | 3 | 0 |
| 11. | $\frac{53}{100}$ | 1 | 0 | 31. | $\frac{3}{8}$ | 3 | 0 |
| 12. | ⁻28 | 1 | 0 | 32. | 1.7 | 3 | 0 |
| 13. | 0.8 | 1 | 0 | 33. | $5\frac{6}{7}$ | 2 | 0 |
| 14. | $\frac{31}{100}$ | 1 | 0 | 34. | 0.6 | 3 | 0 |
| 15. | $12\frac{1}{2}$ | 2 | 0 | 35. | $1\frac{8}{15}$ | 3 | 0 |
| 16. | 324 | 2 | 0 | 36. | 45 | 2 | 0 |
| 17. | ⁻9 | 2 | 0 | 37. | $10\frac{2}{3}$ | 3 | 0 |
| 18. | 7 | 1 | 0 | 38. | $1\frac{2}{25}$ | 3 | 0 |
| 19. | $4\frac{3}{4}$ | 2 | 0 | 39. | $6\frac{3}{8}$ | 3 | 0 |
| 20. | $\frac{5}{18}$ | 2 | 0 | 40. | $3\frac{3}{5}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL = Subtotal 1 + Subtotal 2** [ ]

Student: _____    Teacher: _____    Date: _____

**1**

$$6^2 =$$

_____

**2** Solve for $x$

$$38 + x = 46$$

$x =$ _____

**3**

$$^-5 \bullet 4 =$$

_____

**4**

$$2^3 =$$

_____

**5** Solve for $x$

$$3x = 66$$

$x =$ _____

**6**

$$^-3 \bullet {}^-8 =$$

_____

**7**

$$^-9 - {}^-4 + 4 =$$

_____

**8** Solve for $x$

$$x \div 8 = 6$$

$x =$ _____

**9** Solve for $x$

$$2x = 80$$

$x =$ _____

**10** Solve for $x$

$$x - 22 = 9$$

$x =$ _____

**11** Convert to fraction

$$0.89 =$$

_____

**12**

$$^-9 + {}^-2 + {}^-13 =$$

_____

**13** Convert to decimal

$$\frac{9}{10} =$$

_____

**14** Convert to fraction

$$0.29 =$$

_____

**15** Write fraction as mixed number

$$\frac{8}{3} =$$

_____

**16**

$$20^2 =$$

_____

**17**

$$^-4 - {}^-12 - {}^-7 =$$

_____

**18** Solve for $x$

$$88 = 9x + 7$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{13}{4} =$$

_____

**20** Write the answer in lowest terms

$$\frac{1}{3} \bullet \frac{6}{7} =$$

_____

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2 3 4 5 6 7 8 9 10 11 12 A B C D E

Progress Monitor Grade 8, Probe 14, Page 1

**21**

80% of 45=

_____

**22** Write the answer in lowest terms

$$\frac{9}{4} \cdot \frac{5}{11} =$$

_____

**23** Solve for $x$

$$27 = 2x + 9$$

$x =$ _____

**24**

10% of 50=

_____

**25**

$$18^3 =$$

_____

**26**

140% of 110=

_____

**27**

$$\begin{array}{r} 1.004 \\ \times\ 0.11 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.25 \\ \times\ 0.4 \\ \hline \end{array}$$

**29**

120% of 130=

_____

**30** Convert to decimal

$$\frac{3}{24} =$$

_____

**31** Write the answer in lowest terms

$$\frac{4}{6} \div \frac{8}{9} =$$

_____

**32**

$$0.2 \overline{)0.22}$$

**33** Write the answer in lowest terms

$$\begin{array}{r} 1\ \frac{2}{12} \\ +\ 2\ \frac{3}{12} \\ \hline \end{array}$$

**34**

$$2.3 \overline{)1.15}$$

**35** Write the answer in lowest terms

$$\begin{array}{r} 4\ \frac{4}{6} \\ -\ 3\ \frac{2}{3} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{2} = 12$$

$x =$ _____

**37** Write the answer in lowest terms

$$1\ \frac{1}{2} \cdot 1\ \frac{2}{3} =$$

_____

**38** Write the answer in lowest terms

$$\frac{9}{10} \div \frac{6}{7} =$$

_____

**39** Write the answer in lowest terms

$$\begin{array}{r} 4\ \frac{5}{6} \\ +\ 2\ \frac{4}{12} \\ \hline \end{array}$$

**40** Write the answer in lowest terms

$$\begin{array}{r} 4\ \frac{4}{8} \\ -\ 1\ \frac{1}{8} \\ \hline \end{array}$$

Student: _____     Teacher: _____     Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

### Grade 8, Probe 14 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 36 | 1 | 0 | 21. | 36 | 3 | 0 |
| 2. | 8 | 1 | 0 | 22. | $1\frac{1}{44}$ | 2 | 0 |
| 3. | ⁻20 | 1 | 0 | 23. | 9 | 2 | 0 |
| 4. | 8 | 1 | 0 | 24. | 5 | 3 | 0 |
| 5. | 22 | 1 | 0 | 25. | 5832 | 3 | 0 |
| 6. | 24 | 1 | 0 | 26. | 154 | 3 | 0 |
| 7. | ⁻1 | 2 | 0 | 27. | 0.11044 | 3 | 0 |
| 8. | 48 | 1 | 0 | 28. | 0.5 | 2 | 0 |
| 9. | 40 | 1 | 0 | 29. | 156 | 3 | 0 |
| 10. | 31 | 1 | 0 | 30. | 0.125 | 3 | 0 |
| 11. | $\frac{89}{100}$ | 1 | 0 | 31. | $\frac{3}{4}$ | 3 | 0 |
| 12. | ⁻24 | 1 | 0 | 32. | 1.1 | 3 | 0 |
| 13. | 0.9 | 1 | 0 | 33. | $3\frac{5}{12}$ | 2 | 0 |
| 14. | $\frac{29}{100}$ | 1 | 0 | 34. | 0.5 | 3 | 0 |
| 15. | $2\frac{2}{3}$ | 2 | 0 | 35. | 1 | 3 | 0 |
| 16. | 400 | 2 | 0 | 36. | 24 | 2 | 0 |
| 17. | 15 | 2 | 0 | 37. | $2\frac{1}{2}$ | 3 | 0 |
| 18. | 9 | 1 | 0 | 38. | $1\frac{1}{20}$ | 3 | 0 |
| 19. | $3\frac{1}{4}$ | 2 | 0 | 39. | $7\frac{1}{6}$ | 3 | 0 |
| 20. | $\frac{2}{7}$ | 2 | 0 | 40. | $3\frac{3}{8}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL** = Subtotal 1 + Subtotal 2 [ ]

**1**

$$1^2 =$$

_____

**2** Solve for $x$

$$35 + x = 41$$

$x =$ _____

**3**

$$^-7 \cdot 5 =$$

_____

**4**

$$6^3 =$$

_____

**5** Solve for $x$

$$6x = 78$$

$x =$ _____

**6**

$$^-3 \cdot {}^-12 =$$

_____

**7**

$$^-21 - {}^-5 + 4 =$$

_____

**8** Solve for $x$

$$x \div 8 = 2$$

$x =$ _____

**9** Solve for $x$

$$2x = 68$$

$x =$ _____

**10** Solve for $x$

$$x - 2 = 30$$

$x =$ _____

**11** Convert to fraction

$$0.67 =$$

_____

**12**

$$^-2 + {}^-4 + {}^-13 =$$

_____

**13** Convert to decimal

$$\frac{7}{10} =$$

_____

**14** Convert to fraction

$$0.87 =$$

_____

**15** Write fraction as mixed number

$$\frac{31}{5} =$$

_____

**16**

$$10^2 =$$

_____

**17**

$$^-2 - {}^-17 - {}^-6 =$$

_____

**18** Solve for $x$

$$56 = 9x + 2$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{19}{2} =$$

_____

**20** Write the answer in lowest terms

$$\frac{3}{4} \cdot \frac{1}{4} =$$

_____

**21**

20% of 30=

_____

**22** Write the answer in lowest terms

$$\frac{4}{3} \cdot \frac{9}{11} =$$

_____

**23** Solve for $x$

$$13 = 2x + 9$$

$x =$ _____

**24**

75% of 36=

_____

**25**

$$14^3 =$$

_____

**26**

145% of 140=

_____

**27**

$$\begin{array}{r} 1.013 \\ \times\, 0.11 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.03 \\ \times\, 0.1 \\ \hline \end{array}$$

**29**

200% of 120=

_____

**30** Convert to decimal

$$\frac{15}{24} =$$

_____

**31** Write the answer in lowest terms

$$\frac{6}{9} \div \frac{8}{9} =$$

_____

**32**

$$0.2\,\overline{)0.12}$$

**33** Write the answer in lowest terms

$$3\frac{2}{7}$$
$$+\,3\frac{2}{7}$$
$$\overline{\phantom{xxxxx}}$$

**34**

$$3.1\,\overline{)1.24}$$

**35** Write the answer in lowest terms

$$4\frac{5}{7}$$
$$-\,3\frac{5}{14}$$
$$\overline{\phantom{xxxxx}}$$

**36** Solve for $x$

$$\frac{x}{5} = 7$$

$x =$ _____

**37** Write the answer in lowest terms

$$2\frac{4}{9} \cdot 3\frac{2}{7} =$$

_____

**38** Write the answer in lowest terms

$$\frac{9}{10} \div \frac{2}{7} =$$

_____

**39** Write the answer in lowest terms

$$2\frac{2}{3}$$
$$+\,3\frac{5}{15}$$
$$\overline{\phantom{xxxxx}}$$

**40** Write the answer in lowest terms

$$4\frac{4}{5}$$
$$-\,1\frac{1}{5}$$
$$\overline{\phantom{xxxxx}}$$

Student:                          Teacher:                          Date:

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 15 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 1 | 1 | 0 | 21. | 6 | 3 | 0 |
| 2. | 6 | 1 | 0 | 22. | $1\frac{1}{11}$ | 2 | 0 |
| 3. | ⁻35 | 1 | 0 | 23. | 2 | 2 | 0 |
| 4. | 216 | 1 | 0 | 24. | 27 | 3 | 0 |
| 5. | 13 | 1 | 0 | 25. | 2744 | 3 | 0 |
| 6. | 36 | 1 | 0 | 26. | 203 | 3 | 0 |
| 7. | ⁻12 | 2 | 0 | 27. | 0.11143 | 3 | 0 |
| 8. | 16 | 1 | 0 | 28. | 0.103 | 2 | 0 |
| 9. | 34 | 1 | 0 | 29. | 240 | 3 | 0 |
| 10. | 32 | 1 | 0 | 30. | 0.625 | 3 | 0 |
| 11. | $\frac{67}{100}$ | 1 | 0 | 31. | $\frac{3}{4}$ | 3 | 0 |
| 12. | ⁻19 | 1 | 0 | 32. | 0.6 | 3 | 0 |
| 13. | 0.7 | 1 | 0 | 33. | $6\frac{4}{7}$ | 2 | 0 |
| 14. | $\frac{87}{100}$ | 1 | 0 | 34. | 0.4 | 3 | 0 |
| 15. | $6\frac{1}{5}$ | 2 | 0 | 35. | $1\frac{5}{14}$ | 3 | 0 |
| 16. | 100 | 2 | 0 | 36. | 35 | 2 | 0 |
| 17. | 21 | 2 | 0 | 37. | $8\frac{2}{63}$ | 3 | 0 |
| 18. | 6 | 1 | 0 | 38. | $3\frac{3}{20}$ | 3 | 0 |
| 19. | $9\frac{1}{2}$ | 2 | 0 | 39. | 6 | 3 | 0 |
| 20. | $\frac{3}{16}$ | 2 | 0 | 40. | $3\frac{3}{5}$ | 2 | 0 |

**Subtotal 1** [    ]

**Subtotal 2** [    ]

**TOTAL = Subtotal 1 + Subtotal 2** [    ]

Student: _____ Teacher: _____ Date: _____

**1**

$$3^2 =$$

_____

**2** Solve for $x$

$$19 + x = 32$$

$x =$ _____

**3**

$$^-12 \bullet 3 =$$

_____

**4**

$$6^3 =$$

_____

**5** Solve for $x$

$$4x = 80$$

$x =$ _____

**6**

$$^-4 \bullet {}^-9 =$$

_____

**7**

$$^-20 + {}^-23 - 9 =$$

_____

**8** Solve for $x$

$$x \div 7 = 6$$

$x =$ _____

**9** Solve for $x$

$$2x = 72$$

$x =$ _____

**10** Solve for $x$

$$x - 25 = 4$$

$x =$ _____

**11** Convert to fraction

$$0.99 =$$

_____

**12**

$$^-14 + {}^-3 + {}^-11 =$$

_____

**13** Convert to decimal

$$\frac{2}{5} =$$

_____

**14** Convert to fraction

$$0.51 =$$

_____

**15** Write fraction as mixed number

$$\frac{9}{2} =$$

_____

**16**

$$20^2 =$$

_____

**17**

$$^-19 - {}^-14 - {}^-3 =$$

_____

**18** Solve for $x$

$$81 = 8x + 9$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{13}{3} =$$

_____

**20** Write the answer in lowest terms

$$\frac{4}{7} \bullet \frac{4}{7} =$$

_____

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2 3 4 5 6 7 8 9 10 11 12 A B C D E

Progress Monitor Grade 8, Probe 16, Page 1

**21**

10% of 70=

_____

**22** Write the answer in lowest terms

$$\frac{9}{5} \cdot \frac{7}{11} =$$

_____

**23** Solve for $x$

$$28 = 3x + 7$$

$x =$ _____

**24**

40% of 60=

_____

**25**

$$11^3 =$$

_____

**26**

150% of 160=

_____

**27**

$$\begin{array}{r} 1.003 \\ \times\ 0.13 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.02 \\ \times\ 0.2 \\ \hline \end{array}$$

**29**

200% of 140=

_____

**30** Convert to decimal

$$\frac{3}{8} =$$

_____

**31** Write the answer in lowest terms

$$\frac{5}{6} \div \frac{1}{8} =$$

_____

**32**

$$0.4\overline{\smash{)}0.52}$$

**33** Write the answer in lowest terms

$$\begin{array}{r} 4\ \frac{3}{13} \\ +\ 1\ \frac{2}{13} \\ \hline \end{array}$$

**34**

$$3.1\overline{\smash{)}1.55}$$

**35** Write the answer in lowest terms

$$\begin{array}{r} 2\ \frac{4}{5} \\ -\ 1\ \frac{4}{15} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{2} = 13$$

$x =$ _____

**37** Write the answer in lowest terms

$$2\ \frac{2}{3} \cdot 1\ \frac{1}{6} =$$

_____

**38** Write the answer in lowest terms

$$\frac{8}{9} \div \frac{6}{9} =$$

_____

**39** Write the answer in lowest terms

$$\begin{array}{r} 17\ \frac{5}{6} \\ +\ 3\ \frac{5}{12} \\ \hline \end{array}$$

**40** Write the answer in lowest terms

$$\begin{array}{r} 3\ \frac{5}{6} \\ -\ 2\ \frac{4}{6} \\ \hline \end{array}$$

Student:                           Teacher:                           Date:

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 16 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 9 | 1 | 0 | 21. | 7 | 3 | 0 |
| 2. | 13 | 1 | 0 | 22. | $1\frac{8}{55}$ | 2 | 0 |
| 3. | ⁻36 | 1 | 0 | 23. | 7 | 2 | 0 |
| 4. | 216 | 1 | 0 | 24. | 24 | 3 | 0 |
| 5. | 20 | 1 | 0 | 25. | 1331 | 3 | 0 |
| 6. | 36 | 1 | 0 | 26. | 240 | 3 | 0 |
| 7. | ⁻52 | 2 | 0 | 27. | 0.13039 | 3 | 0 |
| 8. | 42 | 1 | 0 | 28. | 0.204 | 2 | 0 |
| 9. | 36 | 1 | 0 | 29. | 280 | 3 | 0 |
| 10. | 29 | 1 | 0 | 30. | 0.375 | 3 | 0 |
| 11. | $\frac{99}{100}$ | 1 | 0 | 31. | $6\frac{2}{3}$ | 3 | 0 |
| 12. | ⁻28 | 1 | 0 | 32. | 1.3 | 3 | 0 |
| 13. | 0.4 | 1 | 0 | 33. | $5\frac{5}{13}$ | 2 | 0 |
| 14. | $\frac{51}{100}$ | 1 | 0 | 34. | 0.5 | 3 | 0 |
| 15. | $4\frac{1}{2}$ | 2 | 0 | 35. | $1\frac{8}{15}$ | 3 | 0 |
| 16. | 400 | 2 | 0 | 36. | 26 | 2 | 0 |
| 17. | ⁻2 | 2 | 0 | 37. | $3\frac{1}{9}$ | 3 | 0 |
| 18. | 9 | 1 | 0 | 38. | $1\frac{1}{3}$ | 3 | 0 |
| 19. | $4\frac{1}{3}$ | 2 | 0 | 39. | $21\frac{1}{4}$ | 3 | 0 |
| 20. | $\frac{16}{49}$ | 2 | 0 | 40. | $1\frac{1}{6}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL = Subtotal 1 + Subtotal 2** [ ]

**1**

$$9^2 =$$

_____

**2** Solve for $x$

$$8 + x = 32$$

$x =$ _____

**3**

$$^-10 \cdot 3 =$$

_____

**4**

$$5^3 =$$

_____

**5** Solve for $x$

$$6x = 72$$

$x =$ _____

**6**

$$^-5 \cdot {}^-13 =$$

_____

**7**

$$^-25 + {}^-12 - 6 =$$

_____

**8** Solve for $x$

$$x \div 7 = 2$$

$x =$ _____

**9** Solve for $x$

$$2x = 28$$

$x =$ _____

**10** Solve for $x$

$$x - 31 = 3$$

$x =$ _____

**11** Convert to fraction

$$0.61 =$$

_____

**12**

$$^-11 + {}^-15 + {}^-5 =$$

_____

**13** Convert to decimal

$$\frac{5}{10} =$$

_____

**14** Convert to fraction

$$0.57 =$$

_____

**15** Write fraction as mixed number

$$\frac{29}{3} =$$

_____

**16**

$$17^2 =$$

_____

**17**

$$^-5 - {}^-10 - {}^-11 =$$

_____

**18** Solve for $x$

$$29 = 9x + 2$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{22}{5} =$$

_____

**20** Write the answer in lowest terms

$$\frac{2}{5} \cdot \frac{1}{10} =$$

_____

**21**

85% of 40=

_____

**22** Write the answer in lowest terms

$$\frac{6}{2} \cdot \frac{8}{11} =$$

_____

**23** Solve for $x$

$$56 = 6x + 8$$

$x =$ _____

**24**

45% of 20=

_____

**25**

$$15^3 =$$

_____

**26**

150% of 130=

_____

**27**

$$\begin{array}{r} 1.021 \\ \times\ 0.14 \\ \hline \end{array}$$

_____

**28**

$$\begin{array}{r} 1.05 \\ \times\ 0.5 \\ \hline \end{array}$$

_____

**29**

165% of 120=

_____

**30** Convert to decimal

$$\frac{2}{16} =$$

_____

**31** Write the answer in lowest terms

$$\frac{4}{6} \div \frac{5}{6} =$$

_____

**32**

$$0.2\overline{)0.52}$$

**33** Write the answer in lowest terms

$$6\frac{1}{9}$$
$$+\ 5\frac{4}{9}$$
_____

**34**

$$2.5\overline{)1.25}$$

**35** Write the answer in lowest terms

$$3\frac{3}{5}$$
$$-\ 2\frac{1}{15}$$
_____

**36** Solve for $x$

$$\frac{x}{3} = 7$$

$x =$ _____

**37** Write the answer in lowest terms

$$2\frac{1}{3} \cdot 2\frac{1}{3} =$$

_____

**38** Write the answer in lowest terms

$$\frac{8}{9} \div \frac{5}{6} =$$

_____

**39** Write the answer in lowest terms

$$17\frac{1}{2}$$
$$+\ 3\frac{3}{4}$$
_____

**40** Write the answer in lowest terms

$$7\frac{5}{10}$$
$$-\ 2\frac{4}{10}$$
_____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 17 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 81 | 1 | 0 | 21. | 34 | 3 | 0 |
| 2. | 24 | 1 | 0 | 22. | $2\frac{2}{11}$ | 2 | 0 |
| 3. | $^-30$ | 1 | 0 | 23. | 8 | 2 | 0 |
| 4. | 125 | 1 | 0 | 24. | 9 | 3 | 0 |
| 5. | 12 | 1 | 0 | 25. | 3375 | 3 | 0 |
| 6. | 65 | 1 | 0 | 26. | 195 | 3 | 0 |
| 7. | $^-43$ | 2 | 0 | 27. | 0.14294 | 3 | 0 |
| 8. | 14 | 1 | 0 | 28. | 0.525 | 2 | 0 |
| 9. | 14 | 1 | 0 | 29. | 198 | 3 | 0 |
| 10. | 34 | 1 | 0 | 30. | 0.125 | 3 | 0 |
| 11. | $\frac{61}{100}$ | 1 | 0 | 31. | $\frac{4}{5}$ | 3 | 0 |
| 12. | $^-31$ | 1 | 0 | 32. | 2.6 | 3 | 0 |
| 13. | 0.5 | 1 | 0 | 33. | $11\frac{5}{9}$ | 2 | 0 |
| 14. | $\frac{57}{100}$ | 1 | 0 | 34. | 0.5 | 3 | 0 |
| 15. | $9\frac{2}{3}$ | 2 | 0 | 35. | $1\frac{8}{15}$ | 3 | 0 |
| 16. | 289 | 2 | 0 | 36. | 21 | 2 | 0 |
| 17. | 16 | 2 | 0 | 37. | $5\frac{4}{9}$ | 3 | 0 |
| 18. | 3 | 1 | 0 | 38. | $1\frac{1}{15}$ | 3 | 0 |
| 19. | $4\frac{2}{5}$ | 2 | 0 | 39. | $21\frac{1}{4}$ | 3 | 0 |
| 20. | $\frac{1}{25}$ | 2 | 0 | 40. | $5\frac{1}{10}$ | 2 | 0 |

**Subtotal 1** ☐

**Subtotal 2** ☐

**TOTAL = Subtotal 1 + Subtotal 2** ☐

Student: _____ Teacher: _____ Date: _____

**1**

$$5^2 =$$

_____

**2** Solve for $x$

$$25 + x = 60$$

$x = $ _____

**3**

$$^-5 \cdot 4 =$$

_____

**4**

$$3^3 =$$

_____

**5** Solve for $x$

$$4x = 40$$

$x = $ _____

**6**

$$^-6 \cdot ^-2 =$$

_____

**7**

$$^-40 - 40 + 5 =$$

_____

**8** Solve for $x$

$$x \div 5 = 4$$

$x = $ _____

**9** Solve for $x$

$$2x = 36$$

$x = $ _____

**10** Solve for $x$

$$x - 10 = 11$$

$x = $ _____

**11** Convert to fraction

$$0.1 =$$

_____

**12**

$$^-4 + ^-15 + ^-5 =$$

_____

**13** Convert to decimal

$$\frac{6}{10} =$$

_____

**14** Convert to fraction

$$0.13 =$$

_____

**15** Write fraction as mixed number

$$\frac{31}{5} =$$

_____

**16**

$$12^2 =$$

_____

**17**

$$^-12 - ^-11 - ^-3 =$$

_____

**18** Solve for $x$

$$33 = 6x + 3$$

$x = $ _____

**19** Write fraction as mixed number

$$\frac{25}{4} =$$

_____

**20** Write the answer in lowest terms

$$\frac{1}{4} \cdot \frac{3}{10} =$$

_____

**21** 

50% of 60=

_____

**22** Write the answer in lowest terms

$$\frac{7}{2} \cdot \frac{5}{11} =$$

_____

**23** Solve for $x$

$$14 = 2x + 8$$

$x =$ _____

**24** 

35% of 100=

_____

**25** 

$$12^3 =$$

_____

**26** 

130% of 110=

_____

**27** 

$$\begin{array}{r} 1.303 \\ \times\ 0.43 \\ \hline \end{array}$$

_____

**28** 

$$\begin{array}{r} 1.23 \\ \times\ 0.3 \\ \hline \end{array}$$

_____

**29** 

120% of 180=

_____

**30** Convert to decimal

$$\frac{21}{24} =$$

_____

**31** Write the answer in lowest terms

$$\frac{3}{5} \div \frac{4}{5} =$$

_____

**32** 

$$0.3\overline{)0.12}$$

**33** Write the answer in lowest terms

$$10\ \frac{5}{12}$$
$$+\ 5\ \frac{2}{12}$$
$$\overline{\phantom{xxxx}}$$

**34** 

$$1.3\overline{)1.43}$$

**35** Write the answer in lowest terms

$$6\ \frac{1}{8}$$
$$-\ 5\ \frac{3}{4}$$
$$\overline{\phantom{xxxx}}$$

**36** Solve for $x$

$$\frac{x}{5} = 8$$

$x =$ _____

**37** Write the answer in lowest terms

$$2\ \frac{2}{3} \cdot 1\ \frac{1}{6} =$$

_____

**38** Write the answer in lowest terms

$$\frac{4}{5} \div \frac{6}{8} =$$

_____

**39** Write the answer in lowest terms

$$12\ \frac{1}{5}$$
$$+\ 6\ \frac{7}{10}$$
$$\overline{\phantom{xxxx}}$$

**40** Write the answer in lowest terms

$$5\ \frac{5}{11}$$
$$-\ 2\ \frac{2}{11}$$
$$\overline{\phantom{xxxx}}$$

Student: _____          Teacher: _____          Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 18 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 25 | 1 | 0 | 21. | 30 | 3 | 0 |
| 2. | 35 | 1 | 0 | 22. | $1\frac{13}{22}$ | 2 | 0 |
| 3. | ⁻20 | 1 | 0 | 23. | 3 | 2 | 0 |
| 4. | 27 | 1 | 0 | 24. | 35 | 3 | 0 |
| 5. | 10 | 1 | 0 | 25. | 1728 | 3 | 0 |
| 6. | 12 | 1 | 0 | 26. | 143 | 3 | 0 |
| 7. | ⁻75 | 2 | 0 | 27. | 0.56029 | 3 | 0 |
| 8. | 20 | 1 | 0 | 28. | 0.369 | 2 | 0 |
| 9. | 18 | 1 | 0 | 29. | 216 | 3 | 0 |
| 10. | 21 | 1 | 0 | 30. | 0.875 | 3 | 0 |
| 11. | $\frac{1}{10}$ | 1 | 0 | 31. | $\frac{3}{4}$ | 3 | 0 |
| 12. | ⁻24 | 1 | 0 | 32. | 0.4 | 3 | 0 |
| 13. | 0.6 | 1 | 0 | 33. | $15\frac{7}{12}$ | 2 | 0 |
| 14. | $\frac{13}{100}$ | 1 | 0 | 34. | 1.1 | 3 | 0 |
| 15. | $6\frac{1}{5}$ | 2 | 0 | 35. | $\frac{3}{8}$ | 3 | 0 |
| 16. | 144 | 2 | 0 | 36. | 40 | 2 | 0 |
| 17. | 2 | 2 | 0 | 37. | $3\frac{1}{9}$ | 3 | 0 |
| 18. | 5 | 1 | 0 | 38. | $1\frac{1}{15}$ | 3 | 0 |
| 19. | $6\frac{1}{4}$ | 2 | 0 | 39. | $18\frac{9}{10}$ | 3 | 0 |
| 20. | $\frac{3}{40}$ | 2 | 0 | 40. | $3\frac{3}{11}$ | 2 | 0 |

**Subtotal 1** ☐

**Subtotal 2** ☐

**TOTAL = Subtotal 1 + Subtotal 2** ☐

Student: _____  Teacher: _____  Date: _____

**1**

$$7^2 \ =$$

_____

**2** Solve for $x$

$$39 + x = 51$$

$x =$ _____

**3**

$$^-4 \cdot 16 =$$

_____

**4**

$$2^3 \ =$$

_____

**5** Solve for $x$

$$2x = 70$$

$x =$ _____

**6**

$$^-13 \cdot {}^-9 =$$

_____

**7**

$$^-7 - 10 + 6 =$$

_____

**8** Solve for $x$

$$x \div 3 = 13$$

$x =$ _____

**9** Solve for $x$

$$4x = 84$$

$x =$ _____

**10** Solve for $x$

$$x - 27 = 3$$

$x =$ _____

**11** Convert to fraction

$$0.49 =$$

_____

**12**

$$^-6 + {}^-12 + {}^-7 =$$

_____

**13** Convert to decimal

$$\frac{1}{5} =$$

_____

**14** Convert to fraction

$$0.69 =$$

_____

**15** Write fraction as mixed number

$$\frac{25}{3} =$$

_____

**16**

$$18^2 \ =$$

_____

**17**

$$^-3 - {}^-1 - {}^-19 =$$

_____

**18** Solve for $x$

$$22 = 4x + 2$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{18}{4} =$$

_____

**20** Write the answer in lowest terms

$$\frac{2}{3} \cdot \frac{4}{7} =$$

_____

**21**

80% of 75=

_____

**22** Write the answer in lowest terms

$$\frac{9}{4} \cdot \frac{9}{11} =$$

_____

**23** Solve for $x$

$21 = 6x + 3$

$x =$ _____

**24**

10% of 30=

_____

**25**

$14^3 =$

_____

**26**

125% of 164=

_____

**27**

$$\begin{array}{r} 1.012 \\ \times\ 0.12 \\ \hline \end{array}$$

_____

**28**

$$\begin{array}{r} 1.04 \\ \times\ 0.2 \\ \hline \end{array}$$

_____

**29**

190% of 150=

_____

**30** Convert to decimal

$$\frac{21}{24} =$$

_____

**31** Write the answer in lowest terms

$$\frac{6}{9} \div \frac{8}{9} =$$

_____

**32**

$0.2 \overline{\smash{)}0.52}$

**33** Write the answer in lowest terms

$$2\frac{1}{5}$$
$$+\ 2\frac{3}{5}$$

_____

**34**

$1.3 \overline{\smash{)}2.34}$

**35** Write the answer in lowest terms

$$5\frac{1}{2}$$
$$-\ 4\frac{1}{4}$$

_____

**36** Solve for $x$

$$\frac{x}{4} = 5$$

$x =$ _____

**37** Write the answer in lowest terms

$$5\frac{1}{2} \cdot 4\frac{2}{3} =$$

_____

**38** Write the answer in lowest terms

$$\frac{6}{8} \div \frac{4}{7} =$$

_____

**39** Write the answer in lowest terms

$$3\frac{5}{6}$$
$$+\ 1\frac{5}{12}$$

_____

**40** Write the answer in lowest terms

$$7\frac{5}{10}$$
$$-\ 2\frac{4}{10}$$

_____

Student:                              Teacher:                              Date:

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

### Grade 8, Probe 19 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 49 | 1 | 0 | 21. | 60 | 3 | 0 |
| 2. | 12 | 1 | 0 | 22. | $1\frac{37}{44}$ | 2 | 0 |
| 3. | ⁻64 | 1 | 0 | 23. | 3 | 2 | 0 |
| 4. | 8 | 1 | 0 | 24. | 3 | 3 | 0 |
| 5. | 35 | 1 | 0 | 25. | 2744 | 3 | 0 |
| 6. | 117 | 1 | 0 | 26. | 205 | 3 | 0 |
| 7. | ⁻11 | 2 | 0 | 27. | 0.12144 | 3 | 0 |
| 8. | 39 | 1 | 0 | 28. | 0.208 | 2 | 0 |
| 9. | 21 | 1 | 0 | 29. | 285 | 3 | 0 |
| 10. | 30 | 1 | 0 | 30. | 0.875 | 3 | 0 |
| 11. | $\frac{49}{100}$ | 1 | 0 | 31. | $\frac{3}{4}$ | 3 | 0 |
| 12. | ⁻25 | 1 | 0 | 32. | 2.6 | 3 | 0 |
| 13. | 0.2 | 1 | 0 | 33. | $4\frac{4}{5}$ | 2 | 0 |
| 14. | $\frac{69}{100}$ | 1 | 0 | 34. | 1.8 | 3 | 0 |
| 15. | $8\frac{1}{3}$ | 2 | 0 | 35. | $1\frac{1}{4}$ | 3 | 0 |
| 16. | 324 | 2 | 0 | 36. | 20 | 2 | 0 |
| 17. | 17 | 2 | 0 | 37. | $25\frac{2}{3}$ | 3 | 0 |
| 18. | 5 | 1 | 0 | 38. | $1\frac{5}{16}$ | 3 | 0 |
| 19. | $4\frac{1}{2}$ | 2 | 0 | 39. | $5\frac{1}{4}$ | 3 | 0 |
| 20. | $\frac{8}{21}$ | 2 | 0 | 40. | $5\frac{1}{10}$ | 2 | 0 |

Subtotal 1 [      ]

Subtotal 2 [      ]

**TOTAL = Subtotal 1 + Subtotal 2** [      ]

Student: _____  Teacher: _____  Date: _____

**1**

$$4^2 =$$

_____

**2** Solve for $x$

$$31 + x = 80$$

$x =$ _____

**3**

$$^-7 \cdot 6 =$$

_____

**4**

$$4^3 =$$

_____

**5** Solve for $x$

$$2x = 40$$

$x =$ _____

**6**

$$^-4 \cdot {}^-7 =$$

_____

**7**

$$^-20 - 20 + 8 =$$

_____

**8** Solve for $x$

$$x \div 3 = 6$$

$x =$ _____

**9** Solve for $x$

$$3x = 24$$

$x =$ _____

**10** Solve for $x$

$$x - 11 = 15$$

$x =$ _____

**11** Convert to fraction

$$0.17 =$$

_____

**12**

$$^-3 + {}^-12 + {}^-4 =$$

_____

**13** Convert to decimal

$$\frac{4}{10} =$$

_____

**14** Convert to fraction

$$0.23 =$$

_____

**15** Write fraction as mixed number

$$\frac{23}{4} =$$

_____

**16**

$$15^2 =$$

_____

**17**

$$^-18 - {}^-13 - {}^-5 =$$

_____

**18** Solve for $x$

$$24 = 5x + 4$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{19}{3} =$$

_____

**20** Write the answer in lowest terms

$$\frac{1}{4} \cdot \frac{3}{10} =$$

_____

AIMSweb® Math Computation

2 3 4 5 6 7 8 9 10 11 12 A B C D E

**21**

10% of 50=

_____

**22** Write the answer in lowest terms

$$\frac{8}{3} \cdot \frac{9}{11} =$$

_____

**23** Solve for $x$

$$17 = 4x + 5$$

$x =$ _____

**24**

50% of 80=

_____

**25**

$$10^3 =$$

_____

**26**

150% of 130=

_____

**27**

$$\begin{array}{r} 1.203 \\ \times\ 0.32 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.50 \\ \times\ 0.2 \\ \hline \end{array}$$

**29**

110% of 120=

_____

**30** Convert to decimal

$$\frac{10}{16} =$$

_____

**31** Write the answer in lowest terms

$$\frac{1}{2} \div \frac{4}{7} =$$

_____

**32**

$$0.4\overline{)0.32}$$

**33** Write the answer in lowest terms

$$12\ \frac{4}{11}$$
$$+\ 8\ \frac{6}{11}$$

**34**

$$2.5\overline{)1.25}$$

**35** Write the answer in lowest terms

$$8\ \frac{2}{4}$$
$$-\ 7\ \frac{3}{8}$$

**36** Solve for $x$

$$\frac{x}{7} = 7$$

$x =$ _____

**37** Write the answer in lowest terms

$$4\ \frac{1}{5} \cdot 5\ \frac{2}{3} =$$

_____

**38** Write the answer in lowest terms

$$\frac{2}{3} \div \frac{5}{8} =$$

_____

**39** Write the answer in lowest terms

$$11\ \frac{1}{8}$$
$$+\ 7\ \frac{3}{4}$$

**40** Write the answer in lowest terms

$$4\ \frac{7}{12}$$
$$-\ 3\ \frac{6}{12}$$

Student: _____     Teacher: _____     Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

### Grade 8, Probe 20 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 16 | 1 | 0 | 21. | 5 | 3 | 0 |
| 2. | 49 | 1 | 0 | 22. | $2\frac{2}{11}$ | 2 | 0 |
| 3. | ⁻42 | 1 | 0 | 23. | 3 | 2 | 0 |
| 4. | 64 | 1 | 0 | 24. | 40 | 3 | 0 |
| 5. | 20 | 1 | 0 | 25. | 1000 | 3 | 0 |
| 6. | 28 | 1 | 0 | 26. | 195 | 3 | 0 |
| 7. | ⁻32 | 2 | 0 | 27. | 0.38496 | 3 | 0 |
| 8. | 18 | 1 | 0 | 28. | 0.3 | 2 | 0 |
| 9. | 8 | 1 | 0 | 29. | 132 | 3 | 0 |
| 10. | 26 | 1 | 0 | 30. | 0.625 | 3 | 0 |
| 11. | $\frac{17}{100}$ | 1 | 0 | 31. | $\frac{7}{8}$ | 3 | 0 |
| 12. | ⁻19 | 1 | 0 | 32. | 0.8 | 3 | 0 |
| 13. | 0.4 | 1 | 0 | 33. | $20\frac{10}{11}$ | 2 | 0 |
| 14. | $\frac{23}{100}$ | 1 | 0 | 34. | 0.5 | 3 | 0 |
| 15. | $5\frac{3}{4}$ | 2 | 0 | 35. | $1\frac{1}{8}$ | 3 | 0 |
| 16. | 225 | 2 | 0 | 36. | 49 | 2 | 0 |
| 17. | 0 | 2 | 0 | 37. | $23\frac{4}{5}$ | 3 | 0 |
| 18. | 4 | 1 | 0 | 38. | $1\frac{1}{15}$ | 3 | 0 |
| 19. | $6\frac{1}{3}$ | 2 | 0 | 39. | $18\frac{7}{8}$ | 3 | 0 |
| 20. | $\frac{3}{40}$ | 2 | 0 | 40. | $1\frac{1}{12}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL** = Subtotal 1 + Subtotal 2 [ ]

Student: _____ Teacher: _____ Date: _____

**1**

$$6^2 =$$

_____

**2** Solve for $x$

$$7 + x = 31$$

$x =$ _____

**3**

$$^-10 \cdot 5 =$$

_____

**4**

$$2^3 =$$

_____

**5** Solve for $x$

$$3x = 99$$

$x =$ _____

**6**

$$^-5 \cdot {}^-8 =$$

_____

**7**

$$^-15 - 4 + 1 =$$

_____

**8** Solve for $x$

$$x \div 2 = 23$$

$x =$ _____

**9** Solve for $x$

$$7x = 140$$

$x =$ _____

**10** Solve for $x$

$$x - 39 = 8$$

$x =$ _____

**11** Convert to fraction

$$0.61 =$$

_____

**12**

$$^-12 + {}^-16 + {}^-1 =$$

_____

**13** Convert to decimal

$$\frac{3}{5} =$$

_____

**14** Convert to fraction

$$0.71 =$$

_____

**15** Write fraction as mixed number

$$\frac{10}{4} =$$

_____

**16**

$$14^2 =$$

_____

**17**

$$^-5 - {}^-11 - {}^-13 =$$

_____

**18** Solve for $x$

$$74 = 9x + 2$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{5}{2} =$$

_____

**20** Write the answer in lowest terms

$$\frac{2}{5} \cdot \frac{2}{5} =$$

_____

**21**

85% of 60=

_____

**22** Write the answer in lowest terms

$$\frac{7}{2} \cdot \frac{8}{11} =$$

_____

**23** Solve for $x$

$$33 = 5x + 8$$

$x =$ _____

**24**

25% of 20=

_____

**25**

$$16^3 =$$

_____

**26**

160% of 150=

_____

**27**

$$\begin{array}{r} 1.021 \\ \times\ 0.13 \\ \hline \end{array}$$

_____

**28**

$$\begin{array}{r} 1.01 \\ \times\ 0.2 \\ \hline \end{array}$$

_____

**29**

135% of 140=

_____

**30** Convert to decimal

$$\frac{21}{24} =$$

_____

**31** Write the answer in lowest terms

$$\frac{3}{6} \div \frac{9}{10} =$$

_____

**32**

$$0.2\overline{)0.32}$$

**33** Write the answer in lowest terms

$$\begin{array}{r} 4\ \frac{1}{9} \\ +\ 5\ \frac{4}{9} \\ \hline \end{array}$$

**34**

$$1.4\overline{)2.24}$$

**35** Write the answer in lowest terms

$$\begin{array}{r} 3\ \frac{5}{7} \\ -\ 2\ \frac{5}{14} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{3} = 16$$

$x =$ _____

**37** Write the answer in lowest terms

$$2\ \frac{1}{2} \cdot 2\ \frac{1}{4} =$$

_____

**38** Write the answer in lowest terms

$$\frac{8}{9} \div \frac{4}{9} =$$

_____

**39** Write the answer in lowest terms

$$\begin{array}{r} 9\ \frac{3}{4} \\ +\ 6\ \frac{5}{12} \\ \hline \end{array}$$

**40** Write the answer in lowest terms

$$\begin{array}{r} 4\ \frac{5}{8} \\ -\ 3\ \frac{2}{8} \\ \hline \end{array}$$

Student:                              Teacher:                              Date:

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 21 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 36 | 1 | 0 | 21. | 51 | 3 | 0 |
| 2. | 24 | 1 | 0 | 22. | $2\frac{6}{11}$ | 2 | 0 |
| 3. | ⁻50 | 1 | 0 | 23. | 5 | 2 | 0 |
| 4. | 8 | 1 | 0 | 24. | 5 | 3 | 0 |
| 5. | 33 | 1 | 0 | 25. | 4096 | 3 | 0 |
| 6. | 40 | 1 | 0 | 26. | 240 | 3 | 0 |
| 7. | ⁻18 | 2 | 0 | 27. | 0.13273 | 3 | 0 |
| 8. | 46 | 1 | 0 | 28. | 0.202 | 2 | 0 |
| 9. | 20 | 1 | 0 | 29. | 189 | 3 | 0 |
| 10. | 47 | 1 | 0 | 30. | 0.875 | 3 | 0 |
| 11. | $\frac{61}{100}$ | 1 | 0 | 31. | $\frac{5}{9}$ | 3 | 0 |
| 12. | ⁻29 | 1 | 0 | 32. | 1.6 | 3 | 0 |
| 13. | 0.6 | 1 | 0 | 33. | $9\frac{5}{9}$ | 2 | 0 |
| 14. | $\frac{71}{100}$ | 1 | 0 | 34. | 1.6 | 3 | 0 |
| 15. | $2\frac{1}{2}$ | 2 | 0 | 35. | $1\frac{5}{14}$ | 3 | 0 |
| 16. | 196 | 2 | 0 | 36. | 48 | 2 | 0 |
| 17. | 19 | 2 | 0 | 37. | $5\frac{5}{8}$ | 3 | 0 |
| 18. | 8 | 1 | 0 | 38. | 2 | 3 | 0 |
| 19. | $2\frac{1}{2}$ | 2 | 0 | 39. | $16\frac{1}{6}$ | 3 | 0 |
| 20. | $\frac{4}{25}$ | 2 | 0 | 40. | $1\frac{3}{8}$ | 2 | 0 |

**Subtotal 1** ☐

**Subtotal 2** ☐

**TOTAL = Subtotal 1 + Subtotal 2** ☐

**1**

$$5^2 =$$

_____

**2** Solve for $x$

$$14 + x = 31$$

$x =$ _____

**3**

$$^-13 \cdot 4 =$$

_____

**4**

$$4^3 =$$

_____

**5** Solve for $x$

$$4x = 56$$

$x =$ _____

**6**

$$^-3 \cdot ^-5 =$$

_____

**7**

$$^-21 - ^-2 + 16 =$$

_____

**8** Solve for $x$

$$x \div 5 = 6$$

$x =$ _____

**9** Solve for $x$

$$2x = 94$$

$x =$ _____

**10** Solve for $x$

$$x - 32 = 5$$

$x =$ _____

**11** Convert to fraction

$$0.39 =$$

_____

**12**

$$^-10 + ^-4 + ^-12 =$$

_____

**13** Convert to decimal

$$\frac{9}{10} =$$

_____

**14** Convert to fraction

$$0.7 =$$

_____

**15** Write fraction as mixed number

$$\frac{11}{4} =$$

_____

**16**

$$16^2 =$$

_____

**17**

$$^-3 - ^-15 - ^-2 =$$

_____

**18** Solve for $x$

$$6 = 2x + 2$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{7}{6} =$$

_____

**20** Write the answer in lowest terms

$$\frac{1}{4} \cdot \frac{3}{10} =$$

_____

**21**

35% of 40=

_____

**22** Write the answer in lowest terms

$$\frac{7}{2} \cdot \frac{6}{11} =$$

_____

**23** Solve for $x$

$$90 = 9x + 9$$

$x =$ _____

**24**

40% of 55=

_____

**25**

$$15^3 =$$

_____

**26**

125% of 144=

_____

**27**

$$\begin{array}{r} 1.022 \\ \times\, 0.14 \\ \hline \end{array}$$

_____

**28**

$$\begin{array}{r} 1.24 \\ \times\, 0.1 \\ \hline \end{array}$$

_____

**29**

110% of 160=

_____

**30** Convert to decimal

$$\frac{5}{8} =$$

_____

**31** Write the answer in lowest terms

$$\frac{4}{5} \div \frac{8}{9} =$$

_____

**32**

$$0.3\overline{)0.21}$$

**33** Write the answer in lowest terms

$$3\frac{5}{13}$$
$$+\, 2\frac{2}{13}$$
$$\overline{\phantom{xxxxx}}$$

**34**

$$2.2\overline{)2.42}$$

**35** Write the answer in lowest terms

$$6\frac{3}{5}$$
$$-\, 5\frac{1}{15}$$
$$\overline{\phantom{xxxxx}}$$

**36** Solve for $x$

$$\frac{x}{2} = 24$$

$x =$ _____

**37** Write the answer in lowest terms

$$5\frac{1}{2} \cdot 4\frac{2}{3} =$$

_____

**38** Write the answer in lowest terms

$$\frac{7}{9} \div \frac{3}{7} =$$

_____

**39** Write the answer in lowest terms

$$2\frac{5}{7}$$
$$+\, 3\frac{5}{14}$$
$$\overline{\phantom{xxxxx}}$$

**40** Write the answer in lowest terms

$$6\frac{3}{6}$$
$$-\, 3\frac{2}{6}$$
$$\overline{\phantom{xxxxx}}$$

Student: _____     Teacher: _____     Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 22 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 25 | 1 | 0 | 21. | 14 | 3 | 0 |
| 2. | 17 | 1 | 0 | 22. | $1\frac{10}{11}$ | 2 | 0 |
| 3. | ⁻52 | 1 | 0 | 23. | 9 | 2 | 0 |
| 4. | 64 | 1 | 0 | 24. | 22 | 3 | 0 |
| 5. | 14 | 1 | 0 | 25. | 3375 | 3 | 0 |
| 6. | 15 | 1 | 0 | 26. | 180 | 3 | 0 |
| 7. | ⁻3 | 2 | 0 | 27. | 0.14308 | 3 | 0 |
| 8. | 30 | 1 | 0 | 28. | 0.124 | 2 | 0 |
| 9. | 47 | 1 | 0 | 29. | 176 | 3 | 0 |
| 10. | 37 | 1 | 0 | 30. | 0.625 | 3 | 0 |
| 11. | $\frac{39}{100}$ | 1 | 0 | 31. | $\frac{9}{10}$ | 3 | 0 |
| 12. | ⁻26 | 1 | 0 | 32. | 0.7 | 3 | 0 |
| 13. | 0.9 | 1 | 0 | 33. | $5\frac{7}{13}$ | 2 | 0 |
| 14. | $\frac{7}{10}$ | 1 | 0 | 34. | 1.1 | 3 | 0 |
| 15. | $2\frac{3}{4}$ | 2 | 0 | 35. | $1\frac{8}{15}$ | 3 | 0 |
| 16. | 256 | 2 | 0 | 36. | 48 | 2 | 0 |
| 17. | 14 | 2 | 0 | 37. | $25\frac{2}{3}$ | 3 | 0 |
| 18. | 2 | 1 | 0 | 38. | $1\frac{22}{27}$ | 3 | 0 |
| 19. | $1\frac{1}{6}$ | 2 | 0 | 39. | $6\frac{1}{14}$ | 3 | 0 |
| 20. | $\frac{3}{40}$ | 2 | 0 | 40. | $3\frac{1}{6}$ | 2 | 0 |

**Subtotal 1** [　　　]

**Subtotal 2** [　　　]

**TOTAL = Subtotal 1 + Subtotal 2** [　　　]

**1**

$$5^2 =$$

_____

**2** Solve for $x$

$$28 + x = 37$$

$x =$ _____

**3**

$$^-5 \cdot 16 =$$

_____

**4**

$$7^3 =$$

_____

**5** Solve for $x$

$$3x = 42$$

$x =$ _____

**6**

$$^-17 \cdot {}^-2 =$$

_____

**7**

$$^-21 - {}^-29 + 14 =$$

_____

**8** Solve for $x$

$$x \div 6 = 3$$

$x =$ _____

**9** Solve for $x$

$$5x = 95$$

$x =$ _____

**10** Solve for $x$

$$x - 7 = 33$$

$x =$ _____

**11** Convert to fraction

$$0.37 =$$

_____

**12**

$$^-8 + {}^-4 + {}^-9 =$$

_____

**13** Convert to decimal

$$\frac{3}{10} =$$

_____

**14** Convert to fraction

$$0.21 =$$

_____

**15** Write fraction as mixed number

$$\frac{24}{5} =$$

_____

**16**

$$13^2 =$$

_____

**17**

$$^-6 - {}^-9 - {}^-12 =$$

_____

**18** Solve for $x$

$$66 = 8x + 2$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{21}{6} =$$

_____

**20** Write the answer in lowest terms

$$\frac{3}{4} \cdot \frac{5}{9} =$$

_____

**21**

55% of 20=

_____

**22** Write the answer in lowest terms

$$\frac{9}{7} \cdot \frac{9}{11} =$$

_____

**23** Solve for $x$

$$30 = 9x + 3$$

$x =$ _____

**24**

25% of 60=

_____

**25**

$$15^3 =$$

_____

**26**

125% of 120=

_____

**27**

$$\begin{array}{r} 1.003 \\ \times\ 0.14 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.25 \\ \times\ 0.2 \\ \hline \end{array}$$

**29**

160% of 140=

_____

**30** Convert to decimal

$$\frac{2}{16} =$$

_____

**31** Write the answer in lowest terms

$$\frac{2}{3} \div \frac{6}{8} =$$

_____

**32**

$$0.2\overline{)0.24}$$

**33** Write the answer in lowest terms

$$\begin{array}{r} 1\frac{1}{13} \\ + 2\frac{4}{13} \\ \hline \end{array}$$

**34**

$$1.3\overline{)1.43}$$

**35** Write the answer in lowest terms

$$\begin{array}{r} 6\frac{5}{8} \\ - 5\frac{3}{16} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{2} = 8$$

$x =$ _____

**37** Write the answer in lowest terms

$$2\frac{1}{3} \cdot 2\frac{1}{3} =$$

_____

**38** Write the answer in lowest terms

$$\frac{9}{10} \div \frac{6}{7} =$$

_____

**39** Write the answer in lowest terms

$$\begin{array}{r} 6\frac{5}{8} \\ + 2\frac{5}{16} \\ \hline \end{array}$$

**40** Write the answer in lowest terms

$$\begin{array}{r} 7\frac{3}{4} \\ - 5\frac{2}{4} \\ \hline \end{array}$$

Student: _____  Teacher: _____  Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 23 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 25 | 1 | 0 | 21. | 11 | 3 | 0 |
| 2. | 9 | 1 | 0 | 22. | $1\frac{4}{77}$ | 2 | 0 |
| 3. | ⁻80 | 1 | 0 | 23. | 3 | 2 | 0 |
| 4. | 343 | 1 | 0 | 24. | 15 | 3 | 0 |
| 5. | 14 | 1 | 0 | 25. | 3375 | 3 | 0 |
| 6. | 34 | 1 | 0 | 26. | 150 | 3 | 0 |
| 7. | 22 | 2 | 0 | 27. | 0.14042 | 3 | 0 |
| 8. | 18 | 1 | 0 | 28. | 0.25 | 2 | 0 |
| 9. | 19 | 1 | 0 | 29. | 224 | 3 | 0 |
| 10. | 40 | 1 | 0 | 30. | 0.125 | 3 | 0 |
| 11. | $\frac{37}{100}$ | 1 | 0 | 31. | $\frac{8}{9}$ | 3 | 0 |
| 12. | ⁻21 | 1 | 0 | 32. | 1.2 | 3 | 0 |
| 13. | 0.3 | 1 | 0 | 33. | $3\frac{5}{13}$ | 2 | 0 |
| 14. | $\frac{21}{100}$ | 1 | 0 | 34. | 1.1 | 3 | 0 |
| 15. | $4\frac{4}{5}$ | 2 | 0 | 35. | $1\frac{7}{16}$ | 3 | 0 |
| 16. | 169 | 2 | 0 | 36. | 16 | 2 | 0 |
| 17. | 15 | 2 | 0 | 37. | $5\frac{4}{9}$ | 3 | 0 |
| 18. | 8 | 1 | 0 | 38. | $1\frac{1}{20}$ | 3 | 0 |
| 19. | $3\frac{1}{2}$ | 2 | 0 | 39. | $8\frac{15}{16}$ | 3 | 0 |
| 20. | $\frac{5}{12}$ | 2 | 0 | 40. | $2\frac{1}{4}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL = Subtotal 1 + Subtotal 2** [ ]

Student:                           Teacher:                                    Date:

**1**

$$5^2 =$$

_____

**2**  Solve for $x$

$$26 + x = 34$$

$$x = \text{_____}$$

**3**

$$^-8 \bullet 4 =$$

_____

**4**

$$7^3 =$$

_____

**5**  Solve for $x$

$$8x = 96$$

$$x = \text{_____}$$

**6**

$$^-14 \bullet {}^-3 =$$

_____

**7**

$$^-28 - {}^-19 + 16 =$$

_____

**8**  Solve for $x$

$$x \div 4 = 6$$

$$x = \text{_____}$$

**9**  Solve for $x$

$$2x = 52$$

$$x = \text{_____}$$

**10**  Solve for $x$

$$x - 9 = 22$$

$$x = \text{_____}$$

**11**  Convert to fraction

$$0.79 =$$

_____

**12**

$$^-5 + {}^-10 + {}^-2 =$$

_____

**13**  Convert to decimal

$$\frac{1}{2} =$$

_____

**14**  Convert to fraction

$$0.49 =$$

_____

**15**  Write fraction as mixed number

$$\frac{22}{4} =$$

_____

**16**

$$19^2 =$$

_____

**17**

$$^-8 - {}^-6 - {}^-13 =$$

_____

**18**  Solve for $x$

$$15 = 2x + 5$$

$$x = \text{_____}$$

**19**  Write fraction as mixed number

$$\frac{23}{5} =$$

_____

**20**  Write the answer in lowest terms

$$\frac{2}{5} \bullet \frac{1}{2} =$$

_____

**21**

30% of 10=

_____

**22** Write the answer
in lowest terms

$$\frac{9}{3} \cdot \frac{6}{11} =$$

_____

**23** Solve for $x$

$8 = 3x + 2$

$x =$ _____

**24**

40% of 70=

_____

**25**

$14^3 =$

_____

**26**

175% of 120=

_____

**27**

$$\begin{array}{r} 1.012 \\ \times\, 0.15 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.22 \\ \times\, 0.3 \\ \hline \end{array}$$

**29**

200% of 130=

_____

**30** Convert to
decimal

$$\frac{7}{8} =$$

_____

**31** Write the answer
in lowest terms

$$\frac{4}{6} \div \frac{5}{6} =$$

_____

**32**

$0.2\overline{)0.14}$

**33** Write the answer
in lowest terms

$$\begin{array}{r} 3\,\frac{2}{7} \\ +\, 3\,\frac{2}{7} \\ \hline \end{array}$$

**34**

$3.2\overline{)2.24}$

**35** Write the answer
in lowest terms

$$\begin{array}{r} 2\,\frac{5}{7} \\ -\, 1\,\frac{5}{14} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{2} = 5$$

$x =$ _____

**37** Write the answer
in lowest terms

$$2\,\frac{2}{3} \cdot 1\,\frac{1}{6} =$$

_____

**38** Write the answer
in lowest terms

$$\frac{8}{9} \div \frac{7}{8} =$$

_____

**39** Write the answer
in lowest terms

$$\begin{array}{r} 4\,\frac{5}{7} \\ +\, 2\,\frac{5}{14} \\ \hline \end{array}$$

**40** Write the answer
in lowest terms

$$\begin{array}{r} 4\,\frac{5}{7} \\ -\, 3\,\frac{2}{7} \\ \hline \end{array}$$

Student: _____     Teacher: _____     Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

### Grade 8, Probe 24 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 25 | 1 | 0 | 21. | 3 | 3 | 0 |
| 2. | 8 | 1 | 0 | 22. | $1\frac{7}{11}$ | 2 | 0 |
| 3. | ⁻32 | 1 | 0 | 23. | 2 | 2 | 0 |
| 4. | 343 | 1 | 0 | 24. | 28 | 3 | 0 |
| 5. | 12 | 1 | 0 | 25. | 2744 | 3 | 0 |
| 6. | 42 | 1 | 0 | 26. | 210 | 3 | 0 |
| 7. | 7 | 2 | 0 | 27. | 0.1518 | 3 | 0 |
| 8. | 24 | 1 | 0 | 28. | 0.366 | 2 | 0 |
| 9. | 26 | 1 | 0 | 29. | 260 | 3 | 0 |
| 10. | 31 | 1 | 0 | 30. | 0.875 | 3 | 0 |
| 11. | $\frac{79}{100}$ | 1 | 0 | 31. | $\frac{4}{5}$ | 3 | 0 |
| 12. | ⁻17 | 1 | 0 | 32. | 0.7 | 3 | 0 |
| 13. | 0.5 | 1 | 0 | 33. | $6\frac{4}{7}$ | 2 | 0 |
| 14. | $\frac{49}{100}$ | 1 | 0 | 34. | 0.7 | 3 | 0 |
| 15. | $5\frac{1}{2}$ | 2 | 0 | 35. | $1\frac{5}{14}$ | 3 | 0 |
| 16. | 361 | 2 | 0 | 36. | 10 | 2 | 0 |
| 17. | 11 | 2 | 0 | 37. | $3\frac{1}{9}$ | 3 | 0 |
| 18. | 5 | 1 | 0 | 38. | $1\frac{1}{63}$ | 3 | 0 |
| 19. | $4\frac{3}{5}$ | 2 | 0 | 39. | $7\frac{1}{14}$ | 3 | 0 |
| 20. | $\frac{1}{5}$ | 2 | 0 | 40. | $1\frac{3}{7}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL = Subtotal 1 + Subtotal 2** [ ]

AIMSweb® Math Computation
2 3 4 5 6 7 8 9 10 11 12 A B C D E

Progress Monitor Answer Key, Grade 8, Probe 24

Student: _____  Teacher: _____  Date: _____

**1**

$$8^2 =$$

_____

**2** Solve for $x$

$$29 + x = 50$$

$x =$ _____

**3**

$$^-2 \cdot 12 =$$

_____

**4**

$$3^3 =$$

_____

**5** Solve for $x$

$$3x = 75$$

$x =$ _____

**6**

$$^-16 \cdot {}^-5 =$$

_____

**7**

$$^-30 + 26 - 11 =$$

_____

**8** Solve for $x$

$$x \div 3 = 12$$

$x =$ _____

**9** Solve for $x$

$$6x = 96$$

$x =$ _____

**10** Solve for $x$

$$x - 5 = 40$$

$x =$ _____

**11** Convert to fraction

$$0.83 =$$

_____

**12**

$$^-3 + {}^-16 + {}^-6 =$$

_____

**13** Convert to decimal

$$\frac{2}{10} =$$

_____

**14** Convert to fraction

$$0.29 =$$

_____

**15** Write fraction as mixed number

$$\frac{5}{4} =$$

_____

**16**

$$12^2 =$$

_____

**17**

$$^-14 - {}^-3 - {}^-15 =$$

_____

**18** Solve for $x$

$$30 = 7x + 2$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{16}{6} =$$

_____

**20** Write the answer in lowest terms

$$\frac{4}{7} \cdot \frac{3}{10} =$$

_____

AIMSweb® Math Computation
2 3 4 5 6 7 8 9 10 11 12 A B C D E

**21**

25% of 60=

_____

**22** Write the answer
in lowest terms

$$\frac{9}{4} \cdot \frac{7}{11} =$$

_____

**23** Solve for *x*

48 = 5*x* + 8

*x* = _____

**24**

85% of 20=

_____

**25**

$13^3 =$

_____

**26**

105% of 140=

_____

**27**

$$\begin{array}{r} 1.015 \\ \times\, 0.12 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.25 \\ \times\, 0.5 \\ \hline \end{array}$$

**29**

125% of 180=

_____

**30** Convert to
decimal

$$\frac{6}{16} =$$

_____

**31** Write the answer
in lowest terms

$$\frac{1}{5} \div \frac{8}{9} =$$

_____

**32**

$$0.4\overline{)0.44}$$

**33** Write the answer
in lowest terms

$$\begin{array}{r} 1\frac{5}{12} \\ +\, 2\frac{2}{12} \\ \hline \end{array}$$

**34**

$$1.3\overline{)2.21}$$

**35** Write the answer
in lowest terms

$$\begin{array}{r} 5\frac{3}{4} \\ -\, 4\frac{1}{2} \\ \hline \end{array}$$

**36** Solve for *x*

$$\frac{x}{6} = 2$$

*x* = _____

**37** Write the answer
in lowest terms

$$2\frac{1}{2} \cdot 2\frac{2}{3} =$$

_____

**38** Write the answer
in lowest terms

$$\frac{7}{9} \div \frac{6}{9} =$$

_____

**39** Write the answer
in lowest terms

$$\begin{array}{r} 6\frac{5}{6} \\ +\, 3\frac{4}{18} \\ \hline \end{array}$$

**40** Write the answer
in lowest terms

$$\begin{array}{r} 4\frac{4}{5} \\ -\, 1\frac{1}{5} \\ \hline \end{array}$$

Student: _____  Teacher: _____  Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 25 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 64 | 1 | 0 | 21. | 15 | 3 | 0 |
| 2. | 21 | 1 | 0 | 22. | $1\frac{19}{44}$ | 2 | 0 |
| 3. | ⁻24 | 1 | 0 | 23. | 8 | 2 | 0 |
| 4. | 27 | 1 | 0 | 24. | 17 | 3 | 0 |
| 5. | 25 | 1 | 0 | 25. | 2197 | 3 | 0 |
| 6. | 80 | 1 | 0 | 26. | 147 | 3 | 0 |
| 7. | ⁻15 | 2 | 0 | 27. | 0.1218 | 3 | 0 |
| 8. | 36 | 1 | 0 | 28. | 0.625 | 2 | 0 |
| 9. | 16 | 1 | 0 | 29. | 225 | 3 | 0 |
| 10. | 45 | 1 | 0 | 30. | 0.375 | 3 | 0 |
| 11. | $\frac{83}{100}$ | 1 | 0 | 31. | $\frac{9}{40}$ | 3 | 0 |
| 12. | ⁻25 | 1 | 0 | 32. | 1.1 | 3 | 0 |
| 13. | 0.2 | 1 | 0 | 33. | $3\frac{7}{12}$ | 2 | 0 |
| 14. | $\frac{29}{100}$ | 1 | 0 | 34. | 1.7 | 3 | 0 |
| 15. | $1\frac{1}{4}$ | 2 | 0 | 35. | $1\frac{1}{4}$ | 3 | 0 |
| 16. | 144 | 2 | 0 | 36. | 12 | 2 | 0 |
| 17. | 4 | 2 | 0 | 37. | $6\frac{2}{3}$ | 3 | 0 |
| 18. | 4 | 1 | 0 | 38. | $1\frac{1}{6}$ | 3 | 0 |
| 19. | $2\frac{2}{3}$ | 2 | 0 | 39. | $10\frac{1}{18}$ | 3 | 0 |
| 20. | $\frac{6}{35}$ | 2 | 0 | 40. | $3\frac{3}{5}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL = Subtotal 1 + Subtotal 2** [ ]

Student: _____ Teacher: _____ Date: _____

| **1** | **2** Solve for $x$ | **3** | **4** |
|---|---|---|---|
| $3^2 =$ | $36 + x = 44$ | $^-13 \cdot 2 =$ | $4^3 =$ |
| _____ | $x =$ _____ | _____ | _____ |

| **5** Solve for $x$ | **6** | **7** | **8** Solve for $x$ |
|---|---|---|---|
| $3x = 93$ | $^-17 \cdot {}^-5 =$ | $^-11 - {}^-3 + 22 =$ | $x \div 4 = 9$ |
| $x =$ _____ | _____ | _____ | $x =$ _____ |

| **9** Solve for $x$ | **10** Solve for $x$ | **11** Convert to fraction | **12** |
|---|---|---|---|
| $2x = 50$ | $x - 48 = 1$ | $0.13 =$ | $^-14 + {}^-8 + {}^-2 =$ |
| $x =$ _____ | $x =$ _____ | _____ | _____ |

| **13** Convert to decimal | **14** Convert to fraction | **15** Write fraction as mixed number | **16** |
|---|---|---|---|
| $\dfrac{2}{4} =$ | $0.99 =$ | $\dfrac{25}{6} =$ | $14^2 =$ |
| _____ | _____ | _____ | _____ |

| **17** | **18** Solve for $x$ | **19** Write fraction as mixed number | **20** Write the answer in lowest terms |
|---|---|---|---|
| $^-20 - {}^-5 - {}^-10 =$ | $55 = 7x + 6$ | $\dfrac{11}{5} =$ | $\dfrac{2}{3} \cdot \dfrac{4}{5} =$ |
| _____ | $x =$ _____ | _____ | _____ |

**21**

60% of 80=

_____

**22** Write the answer in lowest terms

$$\frac{9}{2} \cdot \frac{7}{11} =$$

_____

**23** Solve for $x$

$$19 = 4x + 3$$

$x =$ _____

**24**

80% of 75=

_____

**25**

$$16^3 =$$

_____

**26**

170% of 110=

_____

**27**

$$\begin{array}{r} 1.015 \\ \times\ 0.13 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.25 \\ \times\ 0.1 \\ \hline \end{array}$$

**29**

160% of 130=

_____

**30** Convert to decimal

$$\frac{7}{8} =$$

_____

**31** Write the answer in lowest terms

$$\frac{1}{8} \div \frac{8}{9} =$$

_____

**32**

$$0.3\overline{)0.42}$$

**33** Write the answer in lowest terms

$$\begin{array}{r} 6\frac{1}{9} \\ +\ 2\frac{1}{9} \\ \hline \end{array}$$

**34**

$$4.3\overline{)2.15}$$

**35** Write the answer in lowest terms

$$\begin{array}{r} 4\frac{5}{7} \\ -\ 3\frac{5}{14} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{8} = 3$$

$x =$ _____

**37** Write the answer in lowest terms

$$4\frac{1}{2} \cdot 4\frac{1}{4} =$$

_____

**38** Write the answer in lowest terms

$$\frac{2}{3} \div \frac{1}{2} =$$

_____

**39** Write the answer in lowest terms

$$\begin{array}{r} 5\frac{2}{3} \\ +\ 1\frac{3}{6} \\ \hline \end{array}$$

**40** Write the answer in lowest terms

$$\begin{array}{r} 6\frac{3}{6} \\ -\ 3\frac{2}{6} \\ \hline \end{array}$$

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 26 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 9 | 1 | 0 | 21. | 48 | 3 | 0 |
| 2. | 8 | 1 | 0 | 22. | $2\frac{19}{22}$ | 2 | 0 |
| 3. | ⁻26 | 1 | 0 | 23. | 4 | 2 | 0 |
| 4. | 64 | 1 | 0 | 24. | 60 | 3 | 0 |
| 5. | 31 | 1 | 0 | 25. | 4096 | 3 | 0 |
| 6. | 85 | 1 | 0 | 26. | 187 | 3 | 0 |
| 7. | 14 | 2 | 0 | 27. | 0.13195 | 3 | 0 |
| 8. | 36 | 1 | 0 | 28. | 0.125 | 2 | 0 |
| 9. | 25 | 1 | 0 | 29. | 208 | 3 | 0 |
| 10. | 49 | 1 | 0 | 30. | 0.875 | 3 | 0 |
| 11. | $\frac{13}{100}$ | 1 | 0 | 31. | $\frac{9}{64}$ | 3 | 0 |
| 12. | ⁻24 | 1 | 0 | 32. | 1.4 | 3 | 0 |
| 13. | 0.5 | 1 | 0 | 33. | $8\frac{2}{9}$ | 2 | 0 |
| 14. | $\frac{99}{100}$ | 1 | 0 | 34. | 0.5 | 3 | 0 |
| 15. | $4\frac{1}{6}$ | 2 | 0 | 35. | $1\frac{5}{14}$ | 3 | 0 |
| 16. | 196 | 2 | 0 | 36. | 24 | 2 | 0 |
| 17. | ⁻5 | 2 | 0 | 37. | $19\frac{1}{8}$ | 3 | 0 |
| 18. | 7 | 1 | 0 | 38. | $1\frac{1}{3}$ | 3 | 0 |
| 19. | $2\frac{1}{5}$ | 2 | 0 | 39. | $7\frac{1}{6}$ | 3 | 0 |
| 20. | $\frac{8}{15}$ | 2 | 0 | 40. | $3\frac{1}{6}$ | 2 | 0 |

Subtotal 1 [    ]

Subtotal 2 [    ]

**TOTAL** = Subtotal 1 + Subtotal 2 [    ]

Student:                              Teacher:                              Date:

| **1** | **2** Solve for $x$ | **3** | **4** |
|---|---|---|---|
| $1^2 =$ | $16 + x = 33$ | $^-4 \cdot 14 =$ | $6^3 =$ |
| _____ | $x =$ _____ | _____ | _____ |

| **5** Solve for $x$ | **6** | **7** | **8** Solve for $x$ |
|---|---|---|---|
| $2x = 64$ | $^-3 \cdot {}^-6 =$ | $^-2 + {}^-3 - 9 =$ | $x \div 9 = 3$ |
| $x =$ _____ | _____ | _____ | $x =$ _____ |

| **9** Solve for $x$ | **10** Solve for $x$ | **11** Convert to fraction | **12** |
|---|---|---|---|
| $3x = 54$ | $x - 6 = 30$ | $0.71 =$ | $^-10 + {}^-8 + {}^-1 =$ |
| $x =$ _____ | $x =$ _____ | _____ | _____ |

| **13** Convert to decimal | **14** Convert to fraction | **15** Write fraction as mixed number | **16** |
|---|---|---|---|
| $\dfrac{2}{10} =$ | $0.31 =$ | $\dfrac{15}{4} =$ | $16^2 =$ |
| _____ | _____ | _____ | _____ |

| **17** | **18** Solve for $x$ | **19** Write fraction as mixed number | **20** Write the answer in lowest terms |
|---|---|---|---|
| $^-15 - {}^-10 - {}^-2 =$ | $10 = 4x + 2$ | $\dfrac{29}{2} =$ | $\dfrac{3}{4} \cdot \dfrac{4}{9} =$ |
| _____ | $x =$ _____ | _____ | _____ |

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2 3 4 5 6 7 8 9 10 11 12 A B C D E

Progress Monitor Grade 8, Probe 27, Page 1

**21**

55% of 80=

_____

**22**  Write the answer
in lowest terms

$$\frac{7}{2} \cdot \frac{5}{11} =$$

_____

**23**  Solve for $x$

$$63 = 6x + 9$$

$x =$ _____

**24**

35% of 20=

_____

**25**

$11^3 =$

_____

**26**

160% of 160=

_____

**27**

$$\begin{array}{r} 1.022 \\ \times\ 0.13 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.23 \\ \times\ 0.3 \\ \hline \end{array}$$

**29**

190% of 170=

_____

**30**  Convert to
decimal

$$\frac{1}{8} =$$

_____

**31**  Write the answer
in lowest terms

$$\frac{1}{5} \div \frac{1}{3} =$$

_____

**32**

$$0.2\overline{)0.04}$$

**33**  Write the answer
in lowest terms

$$\begin{array}{r} 1 \frac{1}{13} \\ + 2 \frac{4}{13} \\ \hline \end{array}$$

**34**

$$2.4\overline{)3.12}$$

**35**  Write the answer
in lowest terms

$$\begin{array}{r} 2 \frac{2}{6} \\ - 1 \frac{2}{12} \\ \hline \end{array}$$

**36**  Solve for $x$

$$\frac{x}{2} = 15$$

$x =$ _____

**37**  Write the answer
in lowest terms

$$5 \frac{1}{2} \cdot 5 \frac{1}{2} =$$

_____

**38**  Write the answer
in lowest terms

$$\frac{9}{10} \div \frac{6}{7} =$$

_____

**39**  Write the answer
in lowest terms

$$\begin{array}{r} 2 \frac{3}{5} \\ + 4 \frac{5}{10} \\ \hline \end{array}$$

**40**  Write the answer
in lowest terms

$$\begin{array}{r} 5 \frac{4}{5} \\ - 2 \frac{3}{5} \\ \hline \end{array}$$

Student: _____          Teacher: _____          Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 27 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 1 | 1 | 0 | 21. | 44 | 3 | 0 |
| 2. | 17 | 1 | 0 | 22. | $1\frac{13}{22}$ | 2 | 0 |
| 3. | ⁻56 | 1 | 0 | 23. | 9 | 2 | 0 |
| 4. | 216 | 1 | 0 | 24. | 7 | 3 | 0 |
| 5. | 32 | 1 | 0 | 25. | 1331 | 3 | 0 |
| 6. | 18 | 1 | 0 | 26. | 256 | 3 | 0 |
| 7. | ⁻14 | 2 | 0 | 27. | 0.13286 | 3 | 0 |
| 8. | 27 | 1 | 0 | 28. | 0.369 | 2 | 0 |
| 9. | 18 | 1 | 0 | 29. | 323 | 3 | 0 |
| 10. | 36 | 1 | 0 | 30. | 0.125 | 3 | 0 |
| 11. | $\frac{71}{100}$ | 1 | 0 | 31. | $\frac{3}{5}$ | 3 | 0 |
| 12. | ⁻19 | 1 | 0 | 32. | 0.2 | 3 | 0 |
| 13. | 0.2 | 1 | 0 | 33. | $3\frac{5}{13}$ | 2 | 0 |
| 14. | $\frac{31}{100}$ | 1 | 0 | 34. | 1.3 | 3 | 0 |
| 15. | $3\frac{3}{4}$ | 2 | 0 | 35. | $1\frac{1}{6}$ | 3 | 0 |
| 16. | 256 | 2 | 0 | 36. | 30 | 2 | 0 |
| 17. | ⁻3 | 2 | 0 | 37. | $30\frac{1}{4}$ | 3 | 0 |
| 18. | 2 | 1 | 0 | 38. | $1\frac{1}{20}$ | 3 | 0 |
| 19. | $14\frac{1}{2}$ | 2 | 0 | 39. | $7\frac{1}{10}$ | 3 | 0 |
| 20. | $\frac{1}{3}$ | 2 | 0 | 40. | $3\frac{1}{5}$ | 2 | 0 |

**Subtotal 1** ☐          **Subtotal 2** ☐

**TOTAL = Subtotal 1 + Subtotal 2** ☐

Student: _____     Teacher: _____          Date: _____

**1**

$$9^2 =$$

_____

**2** Solve for $x$

$$9 + x = 14$$

$x =$ _____

**3**

$$^-6 \cdot 4 =$$

_____

**4**

$$3^3 =$$

_____

**5** Solve for $x$

$$3x = 51$$

$x =$ _____

**6**

$$^-5 \cdot ^-7 =$$

_____

**7**

$$^-9 + ^-30 - 18 =$$

_____

**8** Solve for $x$

$$x \div 3 = 10$$

$x =$ _____

**9** Solve for $x$

$$4x = 52$$

$x =$ _____

**10** Solve for $x$

$$x - 41 = 4$$

$x =$ _____

**11** Convert to fraction

$$0.81 =$$

_____

**12**

$$^-10 + ^-19 + ^-5 =$$

_____

**13** Convert to decimal

$$\frac{4}{8} =$$

_____

**14** Convert to fraction

$$0.7 =$$

_____

**15** Write fraction as mixed number

$$\frac{10}{6} =$$

_____

**16**

$$12^2 =$$

_____

**17**

$$^-10 - ^-8 - ^-1 =$$

_____

**18** Solve for $x$

$$35 = 4x + 7$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{23}{4} =$$

_____

**20** Write the answer in lowest terms

$$\frac{1}{3} \cdot \frac{1}{5} =$$

_____

**21**

50% of 10=

_____

**22**  Write the answer in lowest terms

$$\frac{7}{2} \cdot \frac{7}{11} =$$

_____

**23**  Solve for $x$

$$12 = 5x + 2$$

$x =$ _____

**24**

15% of 20=

_____

**25**

$$13^3 =$$

_____

**26**

195% of 140=

_____

**27**

$$\begin{array}{r} 1.023 \\ \times\, 0.14 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.23 \\ \times\, 0.5 \\ \hline \end{array}$$

**29**

130% of 140=

_____

**30**  Convert to decimal

$$\frac{15}{24} =$$

_____

**31**  Write the answer in lowest terms

$$\frac{2}{4} \div \frac{5}{6} =$$

_____

**32**

$$0.4\overline{\smash{)}0.32}$$

**33**  Write the answer in lowest terms

$$\begin{array}{r} 5\,\frac{4}{12} \\ +\ 3\,\frac{3}{12} \\ \hline \end{array}$$

**34**

$$1.4\overline{\smash{)}1.12}$$

**35**  Write the answer in lowest terms

$$\begin{array}{r} 6\,\frac{5}{6} \\ -\ 1\,\frac{1}{2} \\ \hline \end{array}$$

**36**  Solve for $x$

$$\frac{x}{6} = 7$$

$x =$ _____

**37**  Write the answer in lowest terms

$$3\,\frac{1}{2} \cdot 3\,\frac{1}{2} =$$

_____

**38**  Write the answer in lowest terms

$$\frac{8}{9} \div \frac{6}{7} =$$

_____

**39**  Write the answer in lowest terms

$$\begin{array}{r} 5\,\frac{5}{7} \\ +\ 1\,\frac{5}{14} \\ \hline \end{array}$$

**40**  Write the answer in lowest terms

$$\begin{array}{r} 6\,\frac{5}{8} \\ -\ 1\,\frac{2}{8} \\ \hline \end{array}$$

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2 3 4 5 6 7 8 9 10 11 12 A B C D E

Student: _____  Teacher: _____  Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 28 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 81 | 1 | 0 | 21. | 5 | 3 | 0 |
| 2. | 5 | 1 | 0 | 22. | $2\frac{5}{22}$ | 2 | 0 |
| 3. | ⁻24 | 1 | 0 | 23. | 2 | 2 | 0 |
| 4. | 27 | 1 | 0 | 24. | 3 | 3 | 0 |
| 5. | 17 | 1 | 0 | 25. | 2197 | 3 | 0 |
| 6. | 35 | 1 | 0 | 26. | 273 | 3 | 0 |
| 7. | ⁻57 | 2 | 0 | 27. | 0.14322 | 3 | 0 |
| 8. | 30 | 1 | 0 | 28. | 0.615 | 2 | 0 |
| 9. | 13 | 1 | 0 | 29. | 182 | 3 | 0 |
| 10. | 45 | 1 | 0 | 30. | 0.625 | 3 | 0 |
| 11. | $\frac{81}{100}$ | 1 | 0 | 31. | $\frac{3}{5}$ | 3 | 0 |
| 12. | ⁻34 | 1 | 0 | 32. | 0.8 | 3 | 0 |
| 13. | 0.5 | 1 | 0 | 33. | $8\frac{7}{12}$ | 2 | 0 |
| 14. | $\frac{7}{10}$ | 1 | 0 | 34. | 0.8 | 3 | 0 |
| 15. | $1\frac{2}{3}$ | 2 | 0 | 35. | $5\frac{1}{3}$ | 3 | 0 |
| 16. | 144 | 2 | 0 | 36. | 42 | 2 | 0 |
| 17. | ⁻1 | 2 | 0 | 37. | $12\frac{1}{4}$ | 3 | 0 |
| 18. | 7 | 1 | 0 | 38. | $1\frac{1}{27}$ | 3 | 0 |
| 19. | $5\frac{3}{4}$ | 2 | 0 | 39. | $7\frac{1}{14}$ | 3 | 0 |
| 20. | $\frac{1}{15}$ | 2 | 0 | 40. | $5\frac{3}{8}$ | 2 | 0 |

Subtotal 1 [        ]

Subtotal 2 [        ]

**TOTAL** = Subtotal 1 + Subtotal 2 [        ]

Student: _____ Teacher: _____ Date: _____

**1**
$$8^2 =$$

_____

**2** Solve for $x$
$$9 + x = 47$$

$x =$ _____

**3**
$$^-17 \cdot 2 =$$

_____

**4**
$$3^3 =$$

_____

**5** Solve for $x$
$$2x = 96$$

$x =$ _____

**6**
$$^-4 \cdot {}^-12 =$$

_____

**7**
$$^-24 + 5 - 25 =$$

_____

**8** Solve for $x$
$$x \div 4 = 7$$

$x =$ _____

**9** Solve for $x$
$$3x = 48$$

$x =$ _____

**10** Solve for $x$
$$x - 42 = 3$$

$x =$ _____

**11** Convert to fraction
$$0.59 =$$

_____

**12**
$$^-8 + {}^-5 + {}^-7 =$$

_____

**13** Convert to decimal
$$\frac{6}{10} =$$

_____

**14** Convert to fraction
$$0.17 =$$

_____

**15** Write fraction as mixed number
$$\frac{5}{3} =$$

_____

**16**
$$16^2 =$$

_____

**17**
$$^-3 - {}^-12 - {}^-15 =$$

_____

**18** Solve for $x$
$$85 = 9x + 4$$

$x =$ _____

**19** Write fraction as mixed number
$$\frac{14}{5} =$$

_____

**20** Write the answer in lowest terms
$$\frac{1}{2} \cdot \frac{1}{6} =$$

_____

**21**

30% of 20=

_____

**22** Write the answer in lowest terms

$$\frac{9}{3} \cdot \frac{5}{11} =$$

_____

**23** Solve for $x$

$$34 = 8x + 2$$

$x =$ _____

**24**

10% of 80=

_____

**25**

$$18^3 =$$

_____

**26**

125% of 120=

_____

**27**

$$\begin{array}{r} 1.002 \\ \times\, 0.13 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.03 \\ \times\, 0.4 \\ \hline \end{array}$$

**29**

200% of 150=

_____

**30** Convert to decimal

$$\frac{2}{16} =$$

_____

**31** Write the answer in lowest terms

$$\frac{2}{8} \div \frac{4}{5} =$$

_____

**32**

$$0.5\overline{)0.25}$$

**33** Write the answer in lowest terms

$$\begin{array}{r} 6\frac{1}{9} \\ + 5\frac{4}{9} \\ \hline \end{array}$$

**34**

$$1.3\overline{)3.12}$$

**35** Write the answer in lowest terms

$$\begin{array}{r} 2\frac{5}{7} \\ - 1\frac{5}{14} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{2} = 19$$

$x =$ _____

**37** Write the answer in lowest terms

$$2\frac{4}{9} \cdot 3\frac{2}{7} =$$

_____

**38** Write the answer in lowest terms

$$\frac{2}{3} \div \frac{1}{5} =$$

_____

**39** Write the answer in lowest terms

$$\begin{array}{r} 3\frac{1}{8} \\ + 3\frac{15}{16} \\ \hline \end{array}$$

**40** Write the answer in lowest terms

$$\begin{array}{r} 7\frac{8}{13} \\ - 4\frac{3}{13} \\ \hline \end{array}$$

Student: _____     Teacher: _____     Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 29 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 64 | 1 | 0 | 21. | 6 | 3 | 0 |
| 2. | 38 | 1 | 0 | 22. | $1\frac{4}{11}$ | 2 | 0 |
| 3. | ⁻34 | 1 | 0 | 23. | 4 | 2 | 0 |
| 4. | 27 | 1 | 0 | 24. | 8 | 3 | 0 |
| 5. | 48 | 1 | 0 | 25. | 5832 | 3 | 0 |
| 6. | 48 | 1 | 0 | 26. | 150 | 3 | 0 |
| 7. | ⁻44 | 2 | 0 | 27. | 0.13026 | 3 | 0 |
| 8. | 28 | 1 | 0 | 28. | 0.412 | 2 | 0 |
| 9. | 16 | 1 | 0 | 29. | 300 | 3 | 0 |
| 10. | 45 | 1 | 0 | 30. | 0.125 | 3 | 0 |
| 11. | $\frac{59}{100}$ | 1 | 0 | 31. | $\frac{5}{16}$ | 3 | 0 |
| 12. | ⁻20 | 1 | 0 | 32. | 0.5 | 3 | 0 |
| 13. | 0.6 | 1 | 0 | 33. | $11\frac{5}{9}$ | 2 | 0 |
| 14. | $\frac{17}{100}$ | 1 | 0 | 34. | 2.4 | 3 | 0 |
| 15. | $1\frac{2}{3}$ | 2 | 0 | 35. | $1\frac{5}{14}$ | 3 | 0 |
| 16. | 256 | 2 | 0 | 36. | 38 | 2 | 0 |
| 17. | 24 | 2 | 0 | 37. | $8\frac{2}{63}$ | 3 | 0 |
| 18. | 9 | 1 | 0 | 38. | $3\frac{1}{3}$ | 3 | 0 |
| 19. | $2\frac{4}{5}$ | 2 | 0 | 39. | $7\frac{1}{16}$ | 3 | 0 |
| 20. | $\frac{1}{12}$ | 2 | 0 | 40. | $3\frac{5}{13}$ | 2 | 0 |

**Subtotal 1** [      ]

**Subtotal 2** [      ]

**TOTAL = Subtotal 1 + Subtotal 2** [      ]

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2 3 4 5 6 7 8 9 10 11 12 A B C D E

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Progress Monitor Answer Key, Grade 8, Probe 29

Student: _____  Teacher: _____  Date: _____

**1**

$$6^2 =$$

_____

**2** Solve for $x$

$$15 + x = 34$$

$x =$ _____

**3**

$$^-12 \cdot 5 =$$

_____

**4**

$$8^3 =$$

_____

**5** Solve for $x$

$$2x = 86$$

$x =$ _____

**6**

$$^-4 \cdot {}^-10 =$$

_____

**7**

$$^-18 + {}^-23 - 29 =$$

_____

**8** Solve for $x$

$$x \div 2 = 14$$

$x =$ _____

**9** Solve for $x$

$$3x = 45$$

$x =$ _____

**10** Solve for $x$

$$x - 9 = 30$$

$x =$ _____

**11** Convert to fraction

$$0.73 =$$

_____

**12**

$$^-12 + {}^-7 + {}^-9 =$$

_____

**13** Convert to decimal

$$\frac{1}{2} =$$

_____

**14** Convert to fraction

$$0.79 =$$

_____

**15** Write fraction as mixed number

$$\frac{19}{5} =$$

_____

**16**

$$19^2 =$$

_____

**17**

$$^-5 - {}^-8 - {}^-8 =$$

_____

**18** Solve for $x$

$$70 = 8x + 6$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{14}{4} =$$

_____

**20** Write the answer in lowest terms

$$\frac{3}{5} \cdot \frac{8}{9} =$$

_____

**21**

10% of 10=

_____

**22** Write the answer in lowest terms

$$\frac{9}{2} \cdot \frac{9}{11} =$$

_____

**23** Solve for $x$

$$16 = 7x + 2$$

$x =$ _____

**24**

40% of 60=

_____

**25**

$12^3 =$

_____

**26**

110% of 140=

_____

**27**

$$\begin{array}{r} 1.021 \\ \times\ 0.12 \\ \hline \end{array}$$

_____

**28**

$$\begin{array}{r} 1.25 \\ \times\ 0.3 \\ \hline \end{array}$$

_____

**29**

180% of 130=

_____

**30** Convert to decimal

$$\frac{9}{24} =$$

_____

**31** Write the answer in lowest terms

$$\frac{2}{6} \div \frac{5}{8} =$$

_____

**32**

$0.2\overline{)0.22}$

**33** Write the answer in lowest terms

$$6\ \frac{1}{12}$$
$$+\ 3\ \frac{4}{12}$$

_____

**34**

$2.5\overline{)1.25}$

**35** Write the answer in lowest terms

$$6\ \frac{5}{8}$$
$$-\ 5\ \frac{3}{16}$$

_____

**36** Solve for $x$

$$\frac{x}{5} = 2$$

$x =$ _____

**37** Write the answer in lowest terms

$$4\ \frac{1}{3} \cdot 4\ \frac{1}{4} =$$

_____

**38** Write the answer in lowest terms

$$\frac{6}{8} \div \frac{4}{7} =$$

_____

**39** Write the answer in lowest terms

$$14\ \frac{2}{3}$$
$$+\ 3\ \frac{5}{6}$$

_____

**40** Write the answer in lowest terms

$$5\ \frac{5}{11}$$
$$-\ 2\ \frac{2}{11}$$

_____

Student: _____    Teacher: _____    Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 30 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 36 | 1 | 0 | 21. | 1 | 3 | 0 |
| 2. | 19 | 1 | 0 | 22. | $3\frac{15}{22}$ | 2 | 0 |
| 3. | ⁻60 | 1 | 0 | 23. | 2 | 2 | 0 |
| 4. | 512 | 1 | 0 | 24. | 24 | 3 | 0 |
| 5. | 43 | 1 | 0 | 25. | 1728 | 3 | 0 |
| 6. | 40 | 1 | 0 | 26. | 154 | 3 | 0 |
| 7. | ⁻70 | 2 | 0 | 27. | 0.12252 | 3 | 0 |
| 8. | 28 | 1 | 0 | 28. | 0.375 | 2 | 0 |
| 9. | 15 | 1 | 0 | 29. | 234 | 3 | 0 |
| 10. | 39 | 1 | 0 | 30. | 0.375 | 3 | 0 |
| 11. | $\frac{73}{100}$ | 1 | 0 | 31. | $\frac{8}{15}$ | 3 | 0 |
| 12. | ⁻28 | 1 | 0 | 32. | 1.1 | 3 | 0 |
| 13. | 0.5 | 1 | 0 | 33. | $9\frac{5}{12}$ | 2 | 0 |
| 14. | $\frac{79}{100}$ | 1 | 0 | 34. | 0.5 | 3 | 0 |
| 15. | $3\frac{4}{5}$ | 2 | 0 | 35. | $1\frac{7}{16}$ | 3 | 0 |
| 16. | 361 | 2 | 0 | 36. | 10 | 2 | 0 |
| 17. | 11 | 2 | 0 | 37. | $18\frac{5}{12}$ | 3 | 0 |
| 18. | 8 | 1 | 0 | 38. | $1\frac{5}{16}$ | 3 | 0 |
| 19. | $3\frac{1}{2}$ | 2 | 0 | 39. | $18\frac{1}{2}$ | 3 | 0 |
| 20. | $\frac{8}{15}$ | 2 | 0 | 40. | $3\frac{3}{11}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL** = Subtotal 1 + Subtotal 2 [ ]

Student: _____          Teacher: _____          Date: _____

**1**

$$4^2 \ =$$

_____

**2** Solve for $x$

$$38 + x = 45$$

$x =$ _____

**3**

$$^-6 \cdot 2 =$$

_____

**4**

$$7^3 \ =$$

_____

**5** Solve for $x$

$$5x = 70$$

$x =$ _____

**6**

$$^-2 \cdot ^-13 =$$

_____

**7**

$$^-2 - 22 + 18 =$$

_____

**8** Solve for $x$

$$x \div 7 = 5$$

$x =$ _____

**9** Solve for $x$

$$3x = 69$$

$x =$ _____

**10** Solve for $x$

$$x - 2 = 36$$

$x =$ _____

**11** Convert to fraction

$$0.57 =$$

_____

**12**

$$^-7 + ^-15 + ^-9 =$$

_____

**13** Convert to decimal

$$\frac{4}{10} =$$

_____

**14** Convert to fraction

$$0.77 =$$

_____

**15** Write fraction as mixed number

$$\frac{29}{4} =$$

_____

**16**

$$17^2 \ =$$

_____

**17**

$$^-11 - ^-15 - ^-5 =$$

_____

**18** Solve for $x$

$$69 = 8x + 5$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{18}{5} =$$

_____

**20** Write the answer in lowest terms

$$\frac{3}{4} \cdot \frac{7}{9} =$$

_____

**21**

60% of 55=

_____

**22** Write the answer in lowest terms

$$\frac{9}{3} \cdot \frac{9}{11} =$$

_____

**23** Solve for $x$

$$37 = 5x + 2$$

$x =$ _____

**24**

45% of 80=

_____

**25**

$$15^3 =$$

_____

**26**

110% of 130=

_____

**27**

$$\begin{array}{r} 1.013 \\ \times\, 0.12 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.24 \\ \times\, 0.5 \\ \hline \end{array}$$

**29**

175% of 120=

_____

**30** Convert to decimal

$$\frac{5}{8} =$$

_____

**31** Write the answer in lowest terms

$$\frac{2}{6} \div \frac{5}{8} =$$

_____

**32**

$$0.2\overline{)0.54}$$

**33** Write the answer in lowest terms

$$\begin{array}{r} 1\frac{1}{13} \\ +\, 2\frac{4}{13} \\ \hline \end{array}$$

**34**

$$2.4\overline{)1.44}$$

**35** Write the answer in lowest terms

$$\begin{array}{r} 4\frac{5}{8} \\ -\, 3\frac{3}{16} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{3} = 9$$

$x =$ _____

**37** Write the answer in lowest terms

$$1\frac{1}{3} \cdot 1\frac{1}{5} =$$

_____

**38** Write the answer in lowest terms

$$\frac{9}{10} \div \frac{3}{4} =$$

_____

**39** Write the answer in lowest terms

$$\begin{array}{r} 4\frac{5}{7} \\ +\, 2\frac{5}{14} \\ \hline \end{array}$$

**40** Write the answer in lowest terms

$$\begin{array}{r} 6\frac{4}{5} \\ -\, 5\frac{2}{5} \\ \hline \end{array}$$

Student: _____    Teacher: _____    Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 31 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 16 | 1 | 0 | 21. | 33 | 3 | 0 |
| 2. | 7 | 1 | 0 | 22. | $2\frac{5}{11}$ | 2 | 0 |
| 3. | ⁻12 | 1 | 0 | 23. | 7 | 2 | 0 |
| 4. | 343 | 1 | 0 | 24. | 36 | 3 | 0 |
| 5. | 14 | 1 | 0 | 25. | 3375 | 3 | 0 |
| 6. | 26 | 1 | 0 | 26. | 143 | 3 | 0 |
| 7. | ⁻6 | 2 | 0 | 27. | 0.12156 | 3 | 0 |
| 8. | 35 | 1 | 0 | 28. | 0.62 | 2 | 0 |
| 9. | 23 | 1 | 0 | 29. | 210 | 3 | 0 |
| 10. | 38 | 1 | 0 | 30. | 0.625 | 3 | 0 |
| 11. | $\frac{57}{100}$ | 1 | 0 | 31. | $\frac{8}{15}$ | 3 | 0 |
| 12. | ⁻31 | 1 | 0 | 32. | 2.7 | 3 | 0 |
| 13. | 0.4 | 1 | 0 | 33. | $3\frac{5}{13}$ | 2 | 0 |
| 14. | $\frac{77}{100}$ | 1 | 0 | 34. | 0.6 | 3 | 0 |
| 15. | $7\frac{1}{4}$ | 2 | 0 | 35. | $1\frac{7}{16}$ | 3 | 0 |
| 16. | 289 | 2 | 0 | 36. | 27 | 2 | 0 |
| 17. | 9 | 2 | 0 | 37. | $1\frac{3}{5}$ | 3 | 0 |
| 18. | 8 | 1 | 0 | 38. | $1\frac{1}{5}$ | 3 | 0 |
| 19. | $3\frac{3}{5}$ | 2 | 0 | 39. | $7\frac{1}{14}$ | 3 | 0 |
| 20. | $\frac{7}{12}$ | 2 | 0 | 40. | $1\frac{2}{5}$ | 2 | 0 |

**Subtotal 1** [ ]

**Subtotal 2** [ ]

**TOTAL = Subtotal 1 + Subtotal 2** [ ]

**1**

$$4^2 =$$

_____

**2** Solve for $x$

$$8 + x = 31$$

$x =$ _____

**3**

$$^-3 \cdot 17 =$$

_____

**4**

$$7^3 =$$

_____

**5** Solve for $x$

$$2x = 54$$

$x =$ _____

**6**

$$^-16 \cdot ^-2 =$$

_____

**7**

$$^-14 + ^-4 - 15 =$$

_____

**8** Solve for $x$

$$x \div 5 = 9$$

$x =$ _____

**9** Solve for $x$

$$4x = 92$$

$x =$ _____

**10** Solve for $x$

$$x - 35 = 3$$

$x =$ _____

**11** Convert to fraction

$$0.59 =$$

_____

**12**

$$^-13 + ^-9 + ^-12 =$$

_____

**13** Convert to decimal

$$\frac{8}{10} =$$

_____

**14** Convert to fraction

$$0.97 =$$

_____

**15** Write fraction as mixed number

$$\frac{27}{5} =$$

_____

**16**

$$11^2 =$$

_____

**17**

$$^-15 - ^-1 - ^-7 =$$

_____

**18** Solve for $x$

$$86 = 9x + 5$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{14}{6} =$$

_____

**20** Write the answer in lowest terms

$$\frac{1}{2} \cdot \frac{1}{4} =$$

_____

**21**

25% of 20=

_____

**22** Write the answer in lowest terms

$$\frac{9}{5} \cdot \frac{8}{11} =$$

_____

**23** Solve for $x$

$$44 = 7x + 2$$

$x =$ _____

**24**

20% of 45=

_____

**25**

$$13^3 =$$

_____

**26**

105% of 180=

_____

**27**

$$\begin{array}{r} 1.012 \\ \times\ 0.14 \\ \hline \end{array}$$

**28**

$$\begin{array}{r} 1.04 \\ \times\ 0.3 \\ \hline \end{array}$$

**29**

195% of 140=

_____

**30** Convert to decimal

$$\frac{10}{16} =$$

_____

**31** Write the answer in lowest terms

$$\frac{2}{6} \div \frac{2}{3} =$$

_____

**32**

$$0.2\overline{)0.24}$$

**33** Write the answer in lowest terms

$$3\frac{5}{14}$$
$$+\ 6\frac{4}{14}$$
_____

**34**

$$1.2\overline{)2.04}$$

**35** Write the answer in lowest terms

$$5\frac{4}{9}$$
$$-\ 4\frac{1}{3}$$
_____

**36** Solve for $x$

$$\frac{x}{9} = 4$$

$x =$ _____

**37** Write the answer in lowest terms

$$1\frac{1}{3} \cdot 1\frac{3}{4} =$$

_____

**38** Write the answer in lowest terms

$$\frac{7}{9} \div \frac{3}{7} =$$

_____

**39** Write the answer in lowest terms

$$16\frac{5}{7}$$
$$+\ 3\frac{5}{14}$$
_____

**40** Write the answer in lowest terms

$$5\frac{5}{9}$$
$$-\ 3\frac{4}{9}$$
_____

Student: _____  Teacher: _____  Date: _____

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

## Grade 8, Probe 32 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 16 | 1 | 0 | 21. | 5 | 3 | 0 |
| 2. | 23 | 1 | 0 | 22. | $1\frac{17}{55}$ | 2 | 0 |
| 3. | ⁻51 | 1 | 0 | 23. | 6 | 2 | 0 |
| 4. | 343 | 1 | 0 | 24. | 9 | 3 | 0 |
| 5. | 27 | 1 | 0 | 25. | 2197 | 3 | 0 |
| 6. | 32 | 1 | 0 | 26. | 189 | 3 | 0 |
| 7. | ⁻33 | 2 | 0 | 27. | 0.14168 | 3 | 0 |
| 8. | 45 | 1 | 0 | 28. | 0.312 | 2 | 0 |
| 9. | 23 | 1 | 0 | 29. | 273 | 3 | 0 |
| 10. | 38 | 1 | 0 | 30. | 0.625 | 3 | 0 |
| 11. | $\frac{59}{100}$ | 1 | 0 | 31. | $\frac{1}{2}$ | 3 | 0 |
| 12. | ⁻34 | 1 | 0 | 32. | 1.2 | 3 | 0 |
| 13. | 0.8 | 1 | 0 | 33. | $9\frac{9}{14}$ | 2 | 0 |
| 14. | $\frac{97}{100}$ | 1 | 0 | 34. | 1.7 | 3 | 0 |
| 15. | $5\frac{2}{5}$ | 2 | 0 | 35. | $1\frac{1}{9}$ | 3 | 0 |
| 16. | 121 | 2 | 0 | 36. | 36 | 2 | 0 |
| 17. | ⁻7 | 2 | 0 | 37. | $2\frac{1}{3}$ | 3 | 0 |
| 18. | 9 | 1 | 0 | 38. | $1\frac{22}{27}$ | 3 | 0 |
| 19. | $2\frac{1}{3}$ | 2 | 0 | 39. | $20\frac{1}{14}$ | 3 | 0 |
| 20. | $\frac{1}{8}$ | 2 | 0 | 40. | $2\frac{1}{9}$ | 2 | 0 |

Subtotal 1 [　　　]

Subtotal 2 [　　　]

**TOTAL** = Subtotal 1 + Subtotal 2 [　　　]

Student: _____  Teacher: _____  Date: _____

**1**

$$4^2 =$$

_____

**2** Solve for $x$

$$16 + x = 49$$

$x =$ _____

**3**

$$^-4 \cdot 11 =$$

_____

**4**

$$8^3 =$$

_____

**5** Solve for $x$

$$2x = 92$$

$x =$ _____

**6**

$$^-11 \cdot {}^-4 =$$

_____

**7**

$$^-9 + {}^-8 - 26 =$$

_____

**8** Solve for $x$

$$x \div 5 = 4$$

$x =$ _____

**9** Solve for $x$

$$3x = 81$$

$x =$ _____

**10** Solve for $x$

$$x - 9 = 38$$

$x =$ _____

**11** Convert to fraction

$$0.23 =$$

_____

**12**

$$^-13 + {}^-1 + {}^-9 =$$

_____

**13** Convert to decimal

$$\frac{7}{10} =$$

_____

**14** Convert to fraction

$$0.41 =$$

_____

**15** Write fraction as mixed number

$$\frac{23}{3} =$$

_____

**16**

$$13^2 =$$

_____

**17**

$$^-2 - {}^-4 - {}^-13 =$$

_____

**18** Solve for $x$

$$72 = 8x + 8$$

$x =$ _____

**19** Write fraction as mixed number

$$\frac{28}{5} =$$

_____

**20** Write the answer in lowest terms

$$\frac{2}{5} \cdot \frac{2}{3} =$$

_____

**21**

40% of 85=

_____

**22** Write the answer in lowest terms

$$\frac{9}{6} \cdot \frac{8}{11} =$$

_____

**23** Solve for $x$

$$40 = 9x + 4$$

$x =$ _____

**24**

55% of 20=

_____

**25**

$$12^3 =$$

_____

**26**

160% of 140=

_____

**27**

$$\begin{array}{r} 1.013 \\ \times\ 0.13 \\ \hline \end{array}$$

_____

**28**

$$\begin{array}{r} 1.04 \\ \times\ 0.4 \\ \hline \end{array}$$

_____

**29**

130% of 130=

_____

**30** Convert to decimal

$$\frac{1}{8} =$$

_____

**31** Write the answer in lowest terms

$$\frac{1}{7} \div \frac{4}{7} =$$

_____

**32**

$$0.4 \overline{\smash{)}0.24}$$

**33** Write the answer in lowest terms

$$\begin{array}{r} 3\frac{2}{7} \\ +\ 3\frac{2}{7} \\ \hline \end{array}$$

**34**

$$5.3 \overline{\smash{)}2.12}$$

**35** Write the answer in lowest terms

$$\begin{array}{r} 6\frac{5}{8} \\ -\ 5\frac{3}{16} \\ \hline \end{array}$$

**36** Solve for $x$

$$\frac{x}{4} = 8$$

$x =$ _____

**37** Write the answer in lowest terms

$$3\frac{1}{2} \cdot 3\frac{1}{2} =$$

_____

**38** Write the answer in lowest terms

$$\frac{4}{5} \div \frac{3}{8} =$$

_____

**39** Write the answer in lowest terms

$$\begin{array}{r} 3\frac{3}{4} \\ +\ 2\frac{5}{8} \\ \hline \end{array}$$

**40** Write the answer in lowest terms

$$\begin{array}{r} 4\frac{5}{8} \\ -\ 3\frac{2}{8} \\ \hline \end{array}$$

*Reminder:* There is **no** partial credit when scoring. The answer must be correct **in its entirety** to obtain the correct score value. Note that the answer key provides the correct answers for each problem, but is not exhaustive. NOTE: Unless a mixed number is specifically requested, a reduced improper fraction may be considered the simplest form and scored as correct. For more information and examples of alternative correct answers, please refer to the Scoring section of the M–COMP manual.

### Grade 8, Probe 33 Answer Key

| Item No. | Answer | Correct | Incorrect | Item No. | Answer | Correct | Incorrect |
|---|---|---|---|---|---|---|---|
| 1. | 16 | 1 | 0 | 21. | 34 | 3 | 0 |
| 2. | 33 | 1 | 0 | 22. | $1\frac{1}{11}$ | 2 | 0 |
| 3. | ⁻44 | 1 | 0 | 23. | 4 | 2 | 0 |
| 4. | 512 | 1 | 0 | 24. | 11 | 3 | 0 |
| 5. | 46 | 1 | 0 | 25. | 1728 | 3 | 0 |
| 6. | 44 | 1 | 0 | 26. | 224 | 3 | 0 |
| 7. | ⁻43 | 2 | 0 | 27. | 0.13169 | 3 | 0 |
| 8. | 20 | 1 | 0 | 28. | 0.416 | 2 | 0 |
| 9. | 27 | 1 | 0 | 29. | 169 | 3 | 0 |
| 10. | 47 | 1 | 0 | 30. | 0.125 | 3 | 0 |
| 11. | $\frac{23}{100}$ | 1 | 0 | 31. | $\frac{1}{4}$ | 3 | 0 |
| 12. | ⁻23 | 1 | 0 | 32. | 0.6 | 3 | 0 |
| 13. | 0.7 | 1 | 0 | 33. | $6\frac{4}{7}$ | 2 | 0 |
| 14. | $\frac{41}{100}$ | 1 | 0 | 34. | 0.4 | 3 | 0 |
| 15. | $7\frac{2}{3}$ | 2 | 0 | 35. | $1\frac{7}{16}$ | 3 | 0 |
| 16. | 169 | 2 | 0 | 36. | 32 | 2 | 0 |
| 17. | 15 | 2 | 0 | 37. | $12\frac{1}{4}$ | 3 | 0 |
| 18. | 8 | 1 | 0 | 38. | $2\frac{2}{15}$ | 3 | 0 |
| 19. | $5\frac{3}{5}$ | 2 | 0 | 39. | $6\frac{3}{8}$ | 3 | 0 |
| 20. | $\frac{4}{15}$ | 2 | 0 | 40. | $1\frac{3}{8}$ | 2 | 0 |

**Subtotal 1** ☐

**Subtotal 2** ☐

**TOTAL = Subtotal 1 + Subtotal 2** ☐