1) Find the value of $6(9 - 4) \div (13 - 8)$. (Lesson 1-1)

A 6   **B** 9   **C** 14   **D** 23   1. Ⓐ Ⓑ Ⓒ Ⓓ

2) Identify the numerical expression for *the product of nine and seven*. (Lesson 1-1)

F $9 + 7$ **G** $9 \div 7$ **H** $7 - 9$ **J** 9×7 2. Ⓕ Ⓖ Ⓗ Ⓙ

3) Which expression represents *seven less than the quotient of sixteen and four*? (Lesson 1-2)

A $7 + (16 \times 4)$ **B** $(16 \div 4) - 7$ **C** $16(7 - 4)$ **D** $(16 - 4) \times 7$ 3. Ⓐ Ⓑ Ⓒ Ⓓ

4) Rewrite $(3 - 4) + 7$ using the Associative Property. (Lesson 1-3)

F $3 - (4 + 7)$ **G** $3 - 4 + 7$ **H** $3 + (-4 + 7)$ **J** $7 + (3 - 4)$ 4. Ⓕ Ⓖ Ⓗ Ⓙ

5) The statement $abc = cab$ is an example of which property of multiplication? (Lesson 1-3)

A commutative   **B** inverse   **C** identity   **D** associative   5. Ⓐ Ⓑ Ⓒ Ⓓ

6) Alexa keeps her baseball cards in a binder with plastic pages. Each page has slots for 9 cards. Which expression can be used to find the number of baseball cards Alexa can keep in a binder with p pages? (Lesson 1-2)

6. Ⓕ Ⓖ Ⓗ Ⓙ

F $9 + p$ **G** $p \cdot 9$ **H** $p - 6$ **J** $\dfrac{p}{9}$

7) Simplify $2x + 3(y + 5x)$. (Lesson 1-3)

A $17x + 3y$ **B** $7x + 3y$ **C** $17x + y$ **D** $2x + 3y$ 7. Ⓐ Ⓑ Ⓒ Ⓓ

8) Translate *two more than four times a number* into an algebraic expression. (Lesson 1-2)

F $2t + 4$ **G** $2 + 4 + t$ **H** $4(t + 2)$ **J** $2 + 4t$ 8. Ⓕ Ⓖ Ⓗ Ⓙ

9) Jaime works at the carwash for $3\frac{1}{2}$ hours and earns $24.50. What is his hourly wage? (Lesson 3-4)

9. Ⓐ Ⓑ Ⓒ Ⓓ

A $7.50/hr   **B** $7.00/hr   **C** $6.50/hr   **D** $6.00

10) Evaluate $a - b$ if $a = -12$ and $b = -8$. (Lesson 2-3)

10. Ⓕ Ⓖ Ⓗ Ⓙ

F -20 **G** -4 **H** 4 **J** 20

11) Simplify $-2\frac{1}{5} + 5\frac{3}{5} - \left(-3\frac{2}{5}\right)$. (Lesson 3-5)

A $-11\frac{1}{5}$ **B** 0 **C** $6\frac{4}{5}$ **D** $11\frac{1}{5}$ 11. Ⓐ Ⓑ Ⓒ Ⓓ

12) Solve $-54 = -4n + 2$. (Lesson 4-5)

F 13 **G** 14 **H** -56 **J** -14 12. Ⓕ Ⓖ Ⓗ Ⓙ

13) Which expression is equivalent to $5(n + 2) - 3(n + 2)$? (Lesson 4-2)   13. Ⓐ Ⓑ Ⓒ Ⓓ

A $2n + 4$ **B** $2n + 16$ **C** $2n$ **D** $2n - 4$

Answer Key

1. Order the integers {32, −18, 2, 7, 0, −5, −11} from least to greatest. (Lesson 2-1)

   A {−5, −11, −18, 0, 2, 7, 32}   C {32, 7, 2, 0, −5, −11, −18}

   B {−18, −11, −5, 0, 2, 7, 32}   D {0, 2, −5, 7, −11, −18, 32}

Evaluate each expression if $a = −3$, $b = 4$, and $c = −6$.

2. $b + c + a$

   F −13   **G −5**   H −1   J 13

3. $a − b + c$

   A −1   B −5   C −7   **D −13**

4. $bc + a$

   F −27   G −21   H 6   J 72

5. $|bc| \div a$

   A −21   **B −8**   C 8   D 27

Simplify each expression.

6. $7a(−3b)$

   F $7a − 3b$ **G $−21ab$**   H $4ab$ J $−10ab$

7. $−5x(−12y)$

   A $17xy$ B $−17xy$ **C $60xy$**   D $−60xy$

8. Replace the ● with <, >, or = to make $|−7|$ ● 7 a true sentence. (Lesson 2-1)

   A <   C >

   B =   D none of these

9. Find the coordinate of the point $(−3, 6)$ after it has been reflected over the y-axis. (Lesson 2-7)

   F $(3, 6)$ G $(−3, −6)$ H $(3, −6)$ J $(6, −3)$

10. $19 − 38$

    A −21   **B −19**   C 47   D 57

11. $−11 + |−4|$

    F −15   **G −7**   H 14   J 44

12. $−12(−3)$

    A −36   B −15   C 15   **D 36**

13. Evaluate the expression $a + b − c$ if $a = −1$, $b = 3$, and $c = 6$. (Lesson 2-3)

    F 10   G 8   H −2   **J −4**

14. $11(−6)(−2)$

    A 132   B 19   C 3   D −132

15. $325 \div (−5)$

    F 320   G 65   **H −65**   J −330

16. Simplify $(-4)(3a)(-4b)$. (Lesson 2-4)

    A $48ab$ **B** $-48ab$ **C** $-11ab$ **D** $-5ab$

17. Evaluate the expression $\frac{x}{y}$ if $x = -60$ and $y = 5$. (Lesson 2-5)

    F 12 **G** $\frac{1}{12}$ **H** $-\frac{1}{12}$ **J** -12

18. Solve $x - \frac{3}{4} = \frac{5}{6}$. (Lesson 3-3)

    F $1\frac{7}{12}$ **G** 1 **H** $-\frac{1}{12}$ **J** $-\frac{5}{8}$

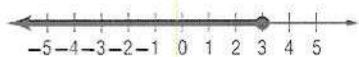**19.** Evaluate $24 \div (6 - 4) \cdot 4 + 3$. (Lesson 1-1)

    A 3 **B** 6 **C** 51 **D** 84

20. Which inequality is represented by the graph below? (Lesson 5-3)

    F $x > 3$ **G** $x < 3$ **H** $x \le 3$ **J** $x \ge 3$

21. Evaluate $a - b + c$ if $a = 6$, $b = -8$, and $c = -2$. (Lesson 2-3)

    A 16 **B** 12 **C** 0 **D** -4

22. Which shows an equivalent expression to $2(a + 6)$? (Lesson 4-1)

    F $2a + 6$ **G** $(2 + a)(2 + 6)$ **H** $\frac{a}{2} + 3$ **J** $2a + 12$

23. Evaluate the expression $|18| - |-6| - (-5)$ (Lesson 2-1)

    F 7 **G** 17 **H** 29 **J** 219

24. Write 0.36 as a fraction in simplest form. (Lesson 3-2)

    A $\frac{36}{100}$ **B** $\frac{9}{25}$ **C** $\frac{3}{6}$ **D** $\frac{36}{10}$

25. Translate *the number of books increased by 4* into an algebraic expression. (Lesson 1-2)

    F $4b$ **G** $b - 4$ **H** $b + 4$ **J** $4 - b$

26. Which of the following shows the fractions ordered from least to greatest? (Lesson 3-1)

    A $\frac{1}{2}, \frac{3}{7}, \frac{4}{16}$ **B** $\frac{3}{7}, \frac{1}{2}, \frac{4}{16}$ **C** $\frac{4}{16}, \frac{1}{2}, \frac{3}{7}$ **D** $\frac{4}{16}, \frac{3}{7}, \frac{1}{2}$

1) What is "8 less than the quotient of a number n and 3" written as an algebraic expression? (Lesson 1-2)

F $8 - \dfrac{n}{3}$

G $\dfrac{n}{3} - 8$

H $\dfrac{8}{n} - 3$

J $\dfrac{3}{n} - 8$

2) If $|x| = 4$, what is the value of x? (Lesson 2-1)

A 4 and 8   **B** 0 and 4   **C** -4 and 0   **D** -4 and 4

3) Simplify $-42 + (-18) + 88$. (Lesson 2-2)

F -148 **G** -28 **H** 28   **J** 148

4) Simplify $15(-3)(-5)$. (Lesson 2-4)

A -225 **B** -175 **C** 175   **D** 225

5) Which decimal is equivalent to $\dfrac{3}{8}$? (Lesson 3-1)

F 3.8   **G** 2.66   **H** 0.375   **J** 0.33

6) Which is *less than* $3\dfrac{1}{6}$? (Lesson 3-1)

A 0.3166   **B** $3.1\overline{66}$ **C** $3\dfrac{2}{9}$ **D** $3\dfrac{1}{3}$

7) Find $1\dfrac{4}{7} \cdot \left(-\dfrac{2}{3}\right)$. Write in simplest form. (Lesson 3-3)

F $1\dfrac{1}{3}$ **G** $\dfrac{22}{21}$ **H** $-1\dfrac{1}{21}$ **J** $-2\dfrac{5}{14}$

8) What is $\dfrac{4}{9}$ divided by $1\dfrac{2}{3}$? (Lesson 3-4)

F $3\dfrac{3}{4}$ **G** $3\dfrac{2}{3}$ **H** $\dfrac{20}{27}$ **J** $\dfrac{4}{15}$

9) Evaluate $3x - 2y + 4z$ if $x = 7$, $y = 4$, and $z = 8$. (Lesson 1-2)

F 65   **G** 55 *woops! ↓ should be 45*   **H** 63   **J** 20

10) How much less is $\dfrac{1}{5}$ than $\dfrac{3}{4}$ in decimal form? (Lesson 3-6)

A 0.2   **B** 0.75   **C** 0.95   **D** 0.55

11) A website sells small T-shirts for $10 and medium T-shirts for $12. There is a $5 fee for shipping and handling. Kay orders 5 small and 6 medium T-shirts. Write an expression that can be used to find the total amount Kay pays for the T-shirts. (Lesson 1-1)

A $115   **B** $122   **C** $127   **D** $137

12) **TRAVEL** Cho and his family drove 428.4 miles in one day. The next day they drove $357\dfrac{1}{4}$ miles to reach their destination. What was the total length of their trip? (Lesson 3-6)

F 785.8 mi   **G** $785\dfrac{1}{3}$ mi   **H** $785\dfrac{13}{20}$ mi   **J** $785\dfrac{5}{14}$ mi

1. Evaluate $r - s + 4$ if $r = 23$ and $s = 18$. (Lesson 1-2)
   - **A** 45
   - **B** -1
   - **C** 9
   - **D** 1

2. Rewrite the expression $(9 \cdot p) \cdot 2$ using the Commutative Property. (Lesson 1-3)
   - **F** $9 \cdot p \cdot 2$
   - **G** $p \cdot (9 \cdot 2)$
   - **H** $9 \cdot (p \cdot 2)$
   - **J** $2 \cdot (9 \cdot p)$

3. Find the product of $\frac{4}{5}$ and $\frac{5}{12}$. (Lesson 3-3)
   - **A** $\frac{9}{17}$
   - **B** $\frac{1}{3}$
   - **C** $1\frac{2}{3}$
   - **D** 4

4. Find the product of -5 and $4x$. (Lesson 2-4)
   - **F** $-20x$
   - **G** $20x$
   - **H** $-\frac{4}{5}x$
   - **J** $\frac{5}{4}x$

5. Evaluate the expression $ac + bc$ if $a = -2$, $b = 5$, and $c = 3$. (Lesson 2-3)
   - **A** 9
   - **B** 21
   - **C** 5
   - **D** -5

6. Replace ● with the correct symbol to make $\frac{7}{8}$ ● $\frac{5}{6}$ a true sentence. (Lesson 3-1)
   - **F** $<$
   - **G** $=$
   - **H** $>$
   - **J** $\times$

7. Which number belongs to the set of rational numbers and the set of integers? (Lesson 3-2)
   - **A** 7.3
   - **B** $\frac{1}{2}$
   - **C** $5\frac{2}{3}$
   - **D** -8

8. Which is the simplified form of $(15z + 7) - 3z$? (Lesson 4-2)
   - **F** $12z + 7$
   - **G** $9z - 7$
   - **H** $9z + 7$
   - **J** $-45z - 21$

9. Solve $-48 = 6m$. (Lesson 4-4)
   - **A** -6
   - **B** 8
   - **C** -52
   - **D** -8

10. Solve $\frac{a}{3} = -21$. (Lesson 4-4)
    - **F** 63
    - **G** -7
    - **H** 7
    - **J** -63

11. What is the solution of $-6 = m + 8$? (Lesson 4-3)
    - **A** 2
    - **B** 14
    - **C** -14
    - **D** -2

12. What is the solution of $-6w = 72$? (Lesson 4-4)
    - **F** 12
    - **G** -432
    - **H** -12
    - **J** 432

13. Evaluate $14 - c + 3d$ if $c = 6$ and $d = 2$. (Lesson 1-2)
    - **A** 29
    - **B** 16
    - **C** 14
    - **D** 2

14. Name the property shown by $(8 \cdot 2) \cdot 3 = 8 \cdot (2 \cdot 3)$. (Lesson 1-3)
    - **F** Commutative Property
    - **G** Associative Property
    - **H** Distributive Property
    - **J** Multiplicative Identity

15. Simplify $|-6| + |7|$. (Lesson 2-1)
    - **A** -13
    - **B** -1
    - **C** 1
    - **D** 13

Find each square root.

1. $\sqrt{289}$

   A 83,521   B 144.5   **C 17**   D not possible

2. $-\sqrt{361}$

   F 130,321   **G −19**   H −180.5   J not possible

For Questions 3 and 4, estimate each square root to the nearest integer. Do not use a calculator.

3. $\sqrt{65}$

   A 4,225   B 130   **C 8**   D 7

4. $-\sqrt{147}$

   F −12   G −11   H 11   J 12

5. Evaluate the expression $|a| - 2|b|$ if $a = 3$ and $b = -6$. (Lesson 2-1)

   A 15   B 9   **C −9**   D −15

6. If the value of $y - 7$ is 18, what is the value of y? (Lesson 1-2)

   A 35   **B 25**   C 11   D 7

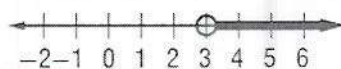7. Which equation represents *seven less than the quotient of a number and 3 is 6*? (Lesson 4-6)

   A $7 - \frac{n}{3} = 6$ **C $\frac{n}{3} - 7 = 6$**

   B $3n - 7 = 6$ D $\frac{n}{3} - 6 = 7$

8. Write the inequality for the graph. (Lesson 5-3)

   −2 −1 0 1 2 3 4 5 6

   A $a \geq 3$ **B $b > 3$**   C $c \leq 3$ D $d < 3$

9. Solve $x - 6.9 \geq -9.1$. (Lesson 5-4)

   F $x \geq 2.2$ **G $x \geq -2.2$**   H $x \geq -16$ J $x \leq -2.2$

10. Solve $\frac{m}{-6} \leq -30$. (Lesson 5-4)

    A $m < 30$ B $m \leq 180$ C $m > 30$ **D $m \geq 180$**

11. Which inequality represents *six less than three times a number is more than eighteen*? (Lesson 5-5)

    F $(6 - 3)n > 18$ **H $3n - 6 > 18$**
    G $3n + 6 > 18$ J $6n - 3 > 18$

Simplify each expression. (Lessons 2-4 and 4-2)

12. $-6(-4a)(-2b)$.

    A $48ab$ **B** $-12ab$ **C** $-48ab$ **D** -48

13. $4t + 4 - 11 + t$

    F $5t - 7$ **G** $3t - 7$ **H** $-2t$ **J** $5t + 15$

14. Five times the sum of a number and 15 is greater than 37. What is the number? (Lesson 5-3)

Should be $-\frac{38}{5}$

    A $x > -\frac{38}{5}$ **B** $x > \frac{22}{5}$ **C** $x > -8$ **D** $x = 8$

15. Solve $x + \frac{3}{5} > 4$. (Lesson 5-4)

    F $x > \frac{1}{5}$ **G** $x > 3\frac{2}{5}$ **H** $x > 3$ **J** $x > 3\frac{1}{5}$