Name KEY Class _____ Date _____

Cumulative Review

Chapter 1

For Exercises 1–12, choose the correct letter.

A **1.** The total cost for fair tickets for a family equals the number of adults at \$4.00 each plus the number of children at \$2.00 each. Which equation could be used to model this situation?

A. $T = 4a + 2c$ **B.** $C = 2a + 4c$ **C.** $T = 4a + c$ **D.** $T = 4(a + 2c)$

B **2.** Simplify $18 + 3(16 \div 8) \cdot 5$.

A. 21 **B.** 48 **C.** 120 **D.** 210

A **3.** The opposite of -15 is which of the following?

A. 15 **B.** 51 **C.** $-\frac{1}{15}$ **D.** $\frac{1}{15}$

D **4.** Simplify $(-2)^3$.

A. 8 **B.** 6 **C.** -6 **D.** -8

B **5.** Simplify $4(-3)^2 + 6$.

A. 22 **B.** 42 **C.** 144 **D.** -3

C **6.** Which of the following is equivalent to $x \cdot \frac{1}{y}$?

A. $\frac{1}{x}$ **B.** $\frac{y}{x}$ **C.** $\frac{x}{y}$ **D.** $y - \frac{1}{x}$

C **7.** Which of the following is true?

A. $\frac{1}{5} < \frac{1}{6}$ **B.** $-\frac{1}{5} > \frac{1}{6}$ **C.** $-\frac{1}{6} < -\frac{1}{8}$ **D.** $\frac{1}{6} < -\frac{1}{8}$

C **8.** Evaluate $3(x^3 - 5x) + 6$ for $x = 3$.

A. 0 **B.** 36 **C.** 42 **D.** 87

A **9.** Evaluate $\frac{2(x^2 + 18)}{x}$ for $x = 4$.

A. 17 **B.** 11 **C.** 8.5 **D.** 68

A **10.** Simplify $|18.4 - 32.1|$.

A. 13.7 **B.** -13.7 **C.** 23.3 **D.** 4.3

D **11.** Which of the following is a rational number?

A. π **B.** $\sqrt{7}$ **C.** $\sqrt{\frac{20}{10}}$ **D.** $0.666666\ldots$

C **12.** Evaluate $|p| - |3q|$ for $p = -2$ and $q = 3$.

A. -11 **B.** 7 **C.** -7 **D.** 11

Name KEY Class _____ Date _____

Cumulative Review (continued)

Chapter 1

For Exercises 13–16, compute the answer.

13. Evaluate $\frac{x^4}{x+6}$ for $x = 3$. 9

14. Simplify $-23 - (-32)$. 9

15. Evaluate $6xy + \frac{-x}{4}$ for $x = 4$ and $y = 3$. 71

16. Evaluate $|3d + 4|$ for $d = -9$. 23

Use an equation to model the relationship in each table.

17.

Number of Items	Total Cost
1	\$1.50
2	\$3.00
3	\$4.50

$C = 1.5n$

18.

Hours Worked	Hours Remaining
1.5 h	6.5 h
3 h	5 h
4.5 h	3.5 h

$r = 8 - w$

Find the sum or difference.

19. $\begin{bmatrix} 6.7 & -2.6 \\ 3.5 & -1.7 \end{bmatrix} + \begin{bmatrix} -3.3 & 2.9 \\ -0.2 & 1.1 \end{bmatrix}$ $\begin{bmatrix} 3.4 & 0.3 \\ 3.3 & -0.6 \end{bmatrix}$

20. $\begin{bmatrix} 6 & 5 \\ -7 & 1 \\ -3 & 8 \end{bmatrix} - \begin{bmatrix} -5 & 2 \\ -8 & 1 \\ 4 & -6 \end{bmatrix}$ $\begin{bmatrix} 11 & 3 \\ 1 & 0 \\ -7 & 14 \end{bmatrix}$

21. **Open-Ended** Write 5 different numbers that together have an average of -12. Explain how to find the average of the 5 numbers. Answers vary.

22. **Writing** Explain the error in the work shown below. Give the correct answer.

$$4 + 3(x - 7) = 7(x - 7)$$
$$= 7x - 49$$

Addition was done before multiplication (distribution)

$3x - 17$