

Name _____

Date _____

Use and Analyze Expressions: Play Answer Sheet

Selected-Response Items—Indicate the letter(s) only.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

Fill-in-the-Blank Items

14. _____

15. (a) _____ (b) _____ (c) _____ (d) _____

Use and Analyze Expressions: Play

Number of Questions: 15

Questions 1–13 are selected-response questions. Write the letters of the correct answers on the answer sheet.

- Which of the following algebraic expressions correctly represent the phrase "a number divided by 16"? *Select all that apply.*

A. $\frac{16}{b}$ B. $d \div 16$ C. $\frac{x}{16}$ D. $16 \div r$
- Which of the following algebraic expressions correctly represents the phrase "3 times the difference of a number and 7"?

A. $3(n - 7)$ B. $3n - 7$ C. $7(3 - n)$ D. $3(7 - n)$
- Which of the following phrases are written translations of the algebraic expression $12w$? *Select all that apply.*

A. the product of 12 and a number B. the quotient of 12 and a number
 C. a number multiplied by 12 D. 12 more than a number
 E. a number less than 12 F. 12 times a number
 G. 12 groups of a number
- Which of the following algebraic expressions could be substituted for the question mark in the table?

| | | | | | |
|-------------|---|---|---|---|-----|
| motorcycles | 1 | 2 | 3 | 4 | m |
| wheels | 2 | 4 | 6 | 8 | ? |

- A. $2m$ B. $m + 2$ C. $m \div 2$ D. m^2
- Alaska’s Wrangell-St. Elias National Park is the largest national park in the United States, with an area of 13,005 square miles. The next largest park is Gates of the Arctic National Park, also in Alaska.

Let g represent the area of Gates of the Arctic National Park.

Which of the following algebraic expressions represents how much larger Wrangell-St. Elias National Park is than Gates of the Arctic National Park?

- A. $13,005g$ B. $13,005 - g$ C. $g + 13,005$ D. $\frac{13,005}{g}$

6. Skyline Drive, a historic road that runs through Shenandoah National Park in Virginia, is 105.5 miles long. Mary will travel the full length of the road, in several equal segments of m miles each.

Which of the following algebraic expressions represents the number of segments in Mary's drive?

- A. $m - 105.5$ B. $m + 105.5$ C. $105.5m$ D. $\frac{105.5}{m}$
7. Which of the following expressions could be substituted for the question mark in the table?

| bagels | dozens of bagels |
|--------|------------------|
| 12 | 1 |
| 24 | 2 |
| 36 | 3 |
| 48 | 4 |
| b | ? |

- A. $b^2 - 12$ B. $b + 12$ C. $\frac{b}{12}$ D. $12b$
8. Which of the following lists all of the terms in the algebraic expression $8x + y + 5$?
- A. $8x$ and y B. x and y C. $8x$, y , and 5 D. 8 , x , y , and 5
9. Which of the following lists includes **all** of the coefficients in the algebraic expression $12a + b + 13c + 9$?
- A. 12 and 13 B. 1 C. 12, 13, and 9 D. 12, 1, and 13
10. Which of the following expressions includes two constant terms and three variables?
- A. $22 - 11b - 4a + 1$ B. $4xy + 2 + 3a - 1$
 C. $6xy + 8 - d$ D. $109 + 2p - 11(q + 2)$
11. Gita had the same number of nickels and dimes before she spent 75 cents. She wrote the expression $5x + 10x - 75$ to represent the amount of money she had left.
- Which of the following does $10x$ represent in the algebraic expression?
- A. the total value of the dimes Gita had before she spent 75 cents
 B. the total number of dimes that Gita has after she spent the 75 cents
 C. the total value of nickels that Gita has
 D. the total number of nickels that Gita has

12. Choose the algebraic expression that represents "12 more than the product of 5 and x ."

- A. $12 + (5 \cdot x)$ B. $(12 + 5) \cdot x$ C. $5 + (12 \cdot x)$ D. $5 \cdot (12 + x)$

13. Angie is 3 years older than Ciaran. Angie writes the expression $x + 3$ to show her age in relation to Ciaran's age.

In this situation, what is the meaning of the constant term in the algebraic expression?

- A. The constant term is the number of years Ciaran is older than Angie.
 B. The constant term is the number of years that Angie is older than Ciaran.
 C. The constant term is Angie's age.
 D. The constant term is Ciaran's age.

Questions 14–15 are fill-in-the-blank questions. Write the correct answers in the spaces provided on the answer sheet.

14. Tickets to a concert are \$35 each. In addition to the cost of each ticket, there is a \$15 processing charge per order.

On the answer sheet, write an expression that represents the total cost of an order of n number of tickets.

15. Read each phrase below. Match the number of each phrase to the operation it indicates.

- | | | | |
|-----------------|--------------------|-----------------------|-----------------|
| Addition | Subtraction | Multiplication | Division |
| (a) _____ | (b) _____ | (c) _____ | (d) _____ |

- | | | |
|---------------------|------------------------------|--------------------------|
| A. 9 more than x | B. t divided into 15 | C. 21 times m |
| D. $b + 18$ | E. the quotient of 5 and q | F. take away 3 from n |
| G. y divided by 4 | H. 32 less than k | I. the sum of 25 and c |
| J. w minus 8 | K. 7 groups of d | L. p more than 17 |