

Name _____

Directions: When working each of the following questions, be sure to show all work.

1) The volume of a certain cube can be found using the expression 7^3 . Express 7^3 as a product of the same factor. Then determine the value.

a) $7 * 3$

b) $(7)(7)$

c) $(7)(7)(7) = 343$

d) $7 * 7 * 7 = 21$

2) Generate an equivalent expression for $3 \times 3 \times 3 \times 3 \times 3$ using an exponent.

a) 3^5

b) 3^4

c) 5^3

d) 243

3) Solve $4^3 + 11$

(hint: PEMDAS)

4) Solve $13 + 5^2 - 7$

(hint: PEMDAS)

5) Solve $42 - 12 \times (6 - 4)$

(hint: PEMDAS)

6) Solve $9 - 3 + 6 \times 4$
(hint: PEMDAS)

7) Evaluate the expression xy if $x = 5$ and $y = 7$

8) Evaluate the expression $9 + 5n$ if $n = \frac{3}{4}$

9) Evaluate the expression $a - b + c$ if $a = 15$, $b = 3$, and $c = 8$

10) Write the phrase as an algebraic expression. 15 jumps less than Kelsy

a) $k - 15$

b) $k + 15$

c) $15m$

d) $\frac{k}{15}$

11) Write the phrase as an algebraic expression. 9 times the amount of doughnuts purchased

a) $9d + 9$

b) $9d$

c) $9 + d$

d) $9 - 9d$

12) Write the phrase as an algebraic expression. 23 dollars more than what Elaina earned

- a) $e - 23$
- b) $23 - e$
- c) $e + 23$
- d) $23e$

13) Factor $21 + 18$ to generate an equivalent expression.

- a) $21 + 18$
- b) $7(3 + 18)$
- c) $3(7 + 6)$
- d) $9(21 + 2)$

14) Generate an equivalent expression using the Distributive Property. $3(y + 9)$

- a) $3y + 27$
- b) $3y + 9$
- c) $3y + 3 + 9$
- d) $3y + 39$

15) Generate an equivalent expression using the Distributive Property. $8(2 + w)$

- a) $16 + w$
- b) $16w$
- c) $82 + 8w$
- d) $16 + 8w$

16) Generate an equivalent expression using the Distributive Property. $17(g + 2)$

a) $g + 34$

b) $17g + 34$

c) $17g + 2$

d) $17g + 32$