

Name _____

Period _____

Combining Like Terms & Distributive Property Practice Problems

Use the distributive property and then simplify the expression.

1) $4(m + 3) =$

2) $-3(c + 7) =$

3) $x(x + 6) =$

4) $-(e - 9) =$

$$5) \quad -3r(r - 2) =$$

$$6) \quad -(k^2 + 11 - kd^2 - 12) =$$

$$7) \quad 16 + 9(t - 2) - 4t =$$

$$8) \quad 5(w^2 - 6 + 2w - 4) =$$

$$9) \quad 6(z + 5) - 5zy + 14 =$$

$$10) \quad -3(q - 2) + q - 5x + 9 =$$

11) $7 - 4(m + 2) =$

12) $-2d + 3(d + 6) - 10 =$

13) $\frac{1}{2}(16f - 2) + f =$

14) $.4(24 - 16g^2) =$

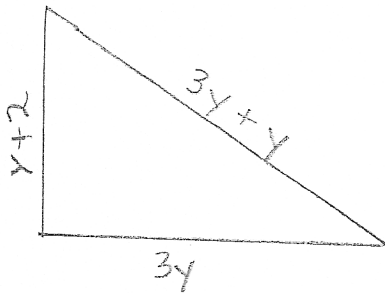
15) $-3(x + y + z) + 4(x + y + z) =$

16) Write an expression that has 4 like terms and 2 unlike terms.

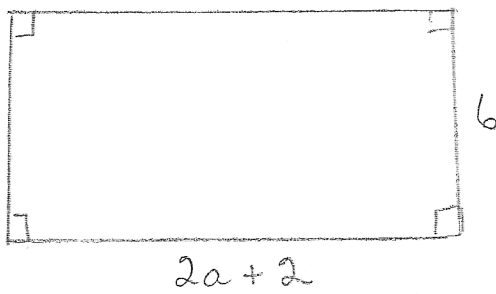
17) Write an expression with 3 terms that reduces (simplifies) to $2x + 6$.

Write an expression for the perimeter of the following figures:

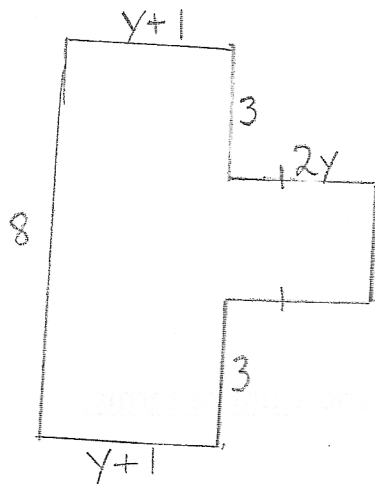
18)



19)



20)



Name _____ Period _____

Unit 5 Test Review

A = Basic

B = Moderate

C = challenging

A

1) State the property being illustrated.

a) $(5)(-2)(3) = (3)(-2)(5)$

b) $5(c - 6) = 5c - 30$

c) $(6 + 2) + 5 = 6 + (2 + 5)$

d) $-4 + 4 = 0$

e) $(-18)(1) = -18$

f) $12 \cdot \left(\frac{1}{12}\right) = 1$

g) $(4 \cdot 3)(9) = (3 \cdot 4)(9)$

A

2) Distribute

a) $6(x + 3) =$

b) $3a(a - 4) =$

c) $-y(y - x + 2) =$

A

3) Combine Like Terms

a) $4x - x + 7y + 2x + 9 =$

B

b) $4a - 3a^2 + 2a - (a - 6) + 5a^2 =$

A

4) Distribute & Combine Like Terms

a) $4(c + 8) + 6(c - 2) =$

b) $5(y + z) + 3(6z + 2y) =$

B

c) $-5x + 2y(y - 6) - 3y^2 + 3x =$

B

C

d) $\frac{3}{4}(t - 8) + \frac{1}{4}(12 + t) =$

C

C

e) $-2[5(c + 8) + 4(c - 3) + 2c] =$

A

B

5) Evaluate when $w = -3$

$$4w^2 + 3w^2 - w + 8 - 4w =$$

B

6) Evaluate if $x = -3$

$$8x^2 - 4(x^2 + 2)$$

B

B

7) Solve if $a = 3$

$$7a^2 + 3(2 - 4a^2)$$

B

8) $-3x(-5x - 2y + 7z) =$

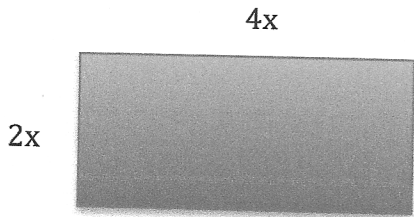
C

9) Solve if $z = -2$

$-3x(-5x - 2y + 7z) =$

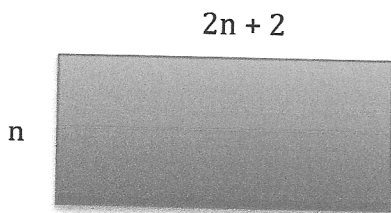
A

10) Write a simplified expression for the perimeter and area of the following figure. Then, tell what the perimeter and area would be if $x = 1, 2, 3, 4$ (make a table)



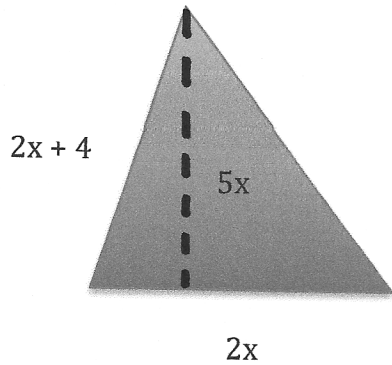
B

11) Write a simplified expression for the perimeter and area of the following figure. Then, tell what the perimeter and area would be if $n = 3, 4, 5, 6$



C

- 12) Write a simplified expression for the perimeter and area of the following figure. Then, tell what the perimeter and area would be if $x = 1, 2, 3, 4, 5$.



B

- 13) Give an example of an equation that is both the commutative and associative properties.

C

- 14) Solve if $z = -2$.

$$-6z(z - 8) + 5z^2 - 13z - 15 - 9z^2 - 11z$$

B

- 15) Which expression is equivalent to the expression: $6(x + 2) - 3(x - 1)$?

- a) $3x + 9$ b) $9x + 5$
c) $3x + 15$ d) $3x - 15$

A

16) What is the greatest common factor of the terms below?

$$12a \quad 20b \quad 42c$$

A17) Factor: $27x + 18$ **A**18) Factor: $15x^2 - 27x$ **B**19) Factor: $72x^3 - 48x^2 + 32$ **B**20) Factor: $20x - 70xy + 35y$ **B**

21) What is the factored form of:

$$10abc + 50ab - 25b$$

C

22) What is the factored form of:

$$-6gh - 15g^2h + 81rs^3 + 9r^2s^2$$

B

23) There are 29 teams in the NBA. Each team can have a maximum of 12 healthy players plus 3 players on injured reserve. Use the distributive property to find the maximum number of players who can be in the NBA.

A

a) Two less than a number is four.

A

b) Nine more than twice a number is twelve.

B

c) Seven is one-fourth of some number.

A

d) Three times a number decreased by 15.

C

e) The number x times the difference between b and c .