

Name: _____

Block: _____

Mrs. van der Vossen Math 8

Expressions Worksheet

1. Represent the following with an expression. Use n as your variable.

a) twice a number increased by three _____

b) half number _____

c) a number added to one-sixths a number _____

d) the product of a number and eight _____

e) twelve subtracted from the sum of a number and three _____

f) the opposite of negative seven _____

g) fifteen times a number decreased by nine _____

h) a number cubed _____

i) the product of five and a number squared _____

2. Distribute the following:

a) $3(x + 3)$ _____

d) $6(y - 2)$ _____

b) $2(h - 9)$ _____

e) $5(n + 5)$ _____

c) $8(x + 10)$ _____

f) $-2(v + 7)$ _____

3. a) Jaxon was told to distribute the expression below. Give the correct answer and explain what he did wrong.

$$2(x - 6) = 2x - 6$$

b) Ava was told to distribute the expression below. Give the correct answer and explain what she did wrong.

$$-3(f + 5) = -3f - 15$$

c) Sydney was told to distribute the expression below. Give the correct answer and explain what she did wrong.

$$8(n - 3) = 8n - 24 = -16n$$

4. Simplify by collecting like terms.

$2x + 7x$	$9x - 7x + 3x$
$5b - 4b + 3b$	$3n - 7n + 4n + 2n$
$3 + 8x + 5x + 2$	$9v - 7v + 7b - 2b$
$3a - 4b - 7a - 3b$	$13n - 7g + 9n - 7g$
$-9a^2 + 8a^2 + 5a - 2a$	$9x - 7 - 7x - 2$
$-4b + 2c^2 - 7b + 3c^2$	$-8h - 3n - 7n^2 + 2h$
$11i - i^2 + 5i^2 - 2i + 6i^2$	$2(x + 7) + 2x$
$5(a - 4) + 3(a - 6)$	$3(n - 7) + 4(n + 2)$

5. Use the expression $n + 5$ to solve the following:

- a) $n = 4$ b) $n = -2$ c) $n = 6$ d) $n = -9$

6. Use the expression $n - 8$ to solve the following:

- a) $n = 3$ b) $n = 2$ c) $n = -4$ d) $n = -2$

7. Use the expression $4n + 5$ to solve the following:

- a) $n = 6$ b) $n = 11$ c) $n = -5$ d) $n = -7$

8. Use the expression $6n - 4$ to solve the following:

- a) $n = 4$ b) $n = -3$ c) $n = 7$ d) $n = -9$

9. Use the expression $2n + 5m$ to solve the following:

- a) $n = 4$ $m = 3$ b) $n = 2$ $m = -5$ c) $n = -4$ $m = -3$

10. Use the expression $8x - 4y$ to solve the following:

- a) $x = -4$ $y = 3$ b) $x = 5$ $y = -9$ c) $x = -4$ $y = -3$

11. Use the expression $4n^2$

- a) $n = 3$ b) $n = 5$ c) $n = -5$ d) $n = -7$

12. Use the expression $3n^2 + 5n$

- a) $n = 6$ b) $n = 11$ c) $n = -4$ d) $n = -2$

13. Use the expression $4n^2 + 2n - 8$

- a) $n = 3$ b) a) $n = 7$

14. Find the SIMPLIFIED perimeter of the shapes below:

	
	