

Name:
Period:

Unit 3 Test Review Stations

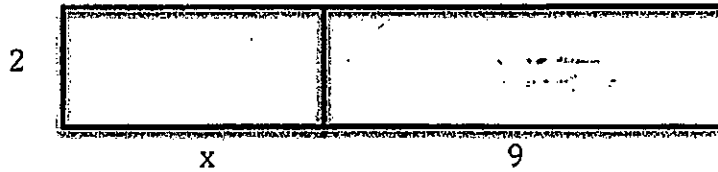
Properties and Evaluating Station #1

- 1) Which property is this an example of: $f \cdot 8 = 8f$?
- 2) Which is an example of the associative property of addition?
a) $7+(3+5) = (7+3) + 5$ b) $3(6+5) = 3(6) + 3(5)$ c) $9+(11+6) = (9+11)+6$
- 3) Evaluate the expression $r^2 + 9$ when $r = 4$
- 4) Evaluate the expression $\frac{(x-z)}{y}$ when $x = -9$, $y = -2$ and $z = 3$
- 5) Evaluate the expression $3h + 5k + 4$ when $h = 2$ and $k = 3$
- 6) Use the distributive property to write in expanded form: $-4(x+6)$
- 7) Use the distributive property to write in factored form & then simplify:
 $3 \cdot 12 + 3 \cdot 8$

Distributive Property Station #2

Remember to COMPLETELY SIMPLIFY

- 1) Write two expressions, one in factored form and one in expanded form, to represent the area of the largest rectangle below.



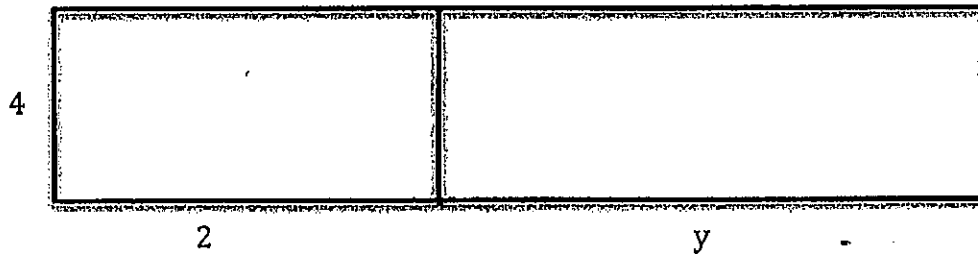
2) $2(x + 7)$

4) $8 - 4(3x + 10)$

3) $5(c + 3)$

5) $6(3r + 8) - 15$

- 6) Write two expressions, one in factored form and one in expanded form, to represent the area of the largest rectangle below.



Factoring

1.) $8b + 20$

2.) $-5h - 45$

3.) $3a + 12$

4.) $33 - 9y$

Combining Like Terms

Station #3

Remember to COMPLETELY SIMPLIFY

1) $-4b + 3 - 11b - 7$

6) $10c + 4(4c - 6)$

2) $-r - 3 + 9 - 4r$

7) $(6 + 3y) + (y - 2)$

3) $7p - 12 - 17$

8) $8t + 5(7 + 4t) + 13$

4) $2a - 17 + 20a - 9$

9) $-8(4 - 5z) + 4(7z - 10)$

5) $(-5x + 2) + (-4 + -x)$

10) $(4x + 3) + (-x + 7) + (4 + 2x)$

Verbal and Algebraic Expressions

Station #4

Translate each problem to its opposite form: verbal to algebraic and algebraic to verbal

1) Some number plus 7

7) $3x - 8$

2) $5x$

8) $\frac{3}{4}x$

3) $\frac{x}{3}$

9) Some number split into seven equal parts

4) Some number increased by another number twice its size

10) Twice the quantity of some number and eleven

5) Eleven less than some number

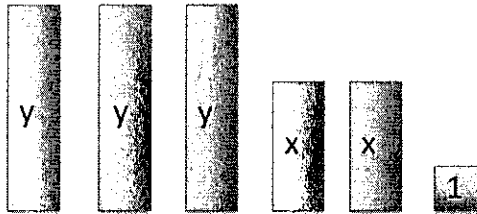
11) One-third the quantity of some number less than fifteen

6) Double the amount of some number

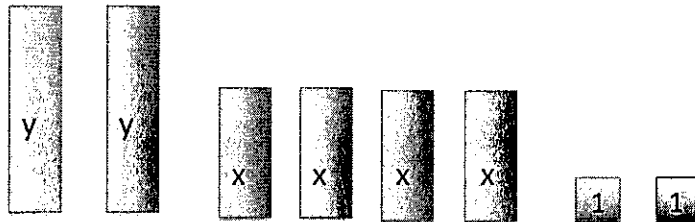
12) Twelve less than some number

Algebra Tiles Practice Problems: Station #5

1. In simplest form, write the expression represented by the algebra tiles.

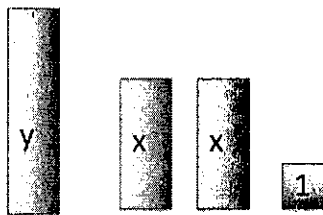


2. In simplest form, write the expression represented by the algebra tiles.

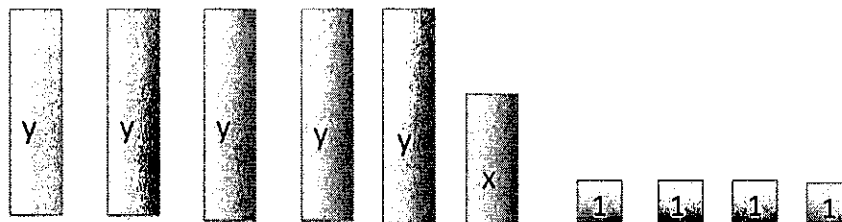


3. Add the expressions from problem numbers 1 and 2. Write the final answer in simplest form.

4. In simplest form, write the expression represented by the algebra tiles.



5. In simplest form, write the expression represented by the algebra tiles.

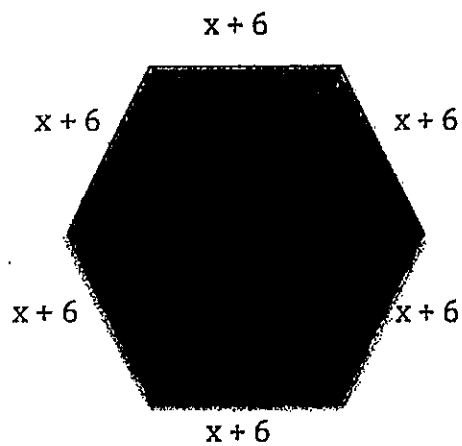
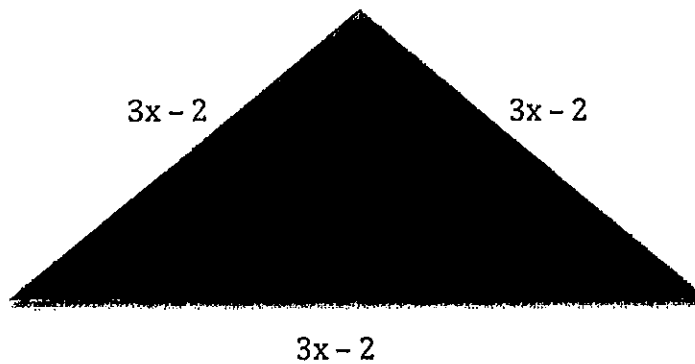
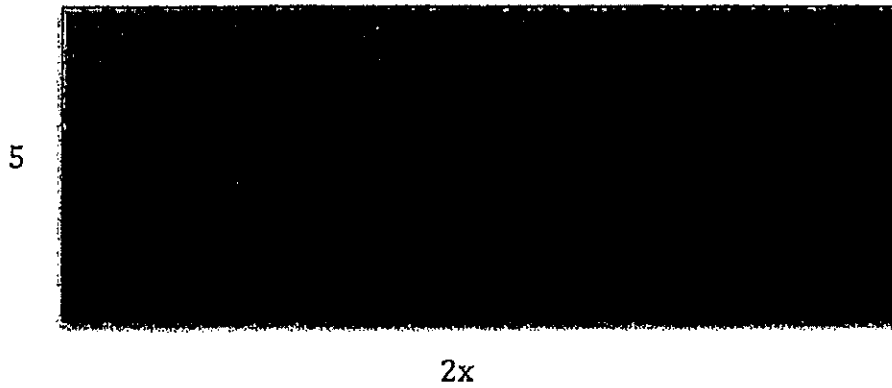


6. Add the expressions from problem numbers 4 and 5. Write the final answer in simplest form.

Station #6

Perimeter

Write a SIMPLIFIED expression for the perimeter for the following shapes:



Key

Name:
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Unit 3 Test Review Stations

Properties and Evaluating Station #1

- 1) Which property is this an example of: $f \cdot 8 = 8f$?

Commutative property of multiplication

- 2) Which is an example of the associative property of addition?

a) $7+(3+5) = (7+3) + 5$ b) $3(6+5) = 3(6) + 3(5)$ c) $9+(11+6) = (9+11)+6$

- 3) Evaluate the expression $r^2 + 9$ when $r = 4$

$$4^2 + 9 \\ 16 + 9 = 25$$

- 4) Evaluate the expression $\frac{(x-z)}{y}$ when $x = -9$, $y = -2$ and $z = 3$

$$\frac{-9 - 3}{-2} = \frac{-9 + -3}{-2} = \frac{-12}{-2} = 6$$

- 5) Evaluate the expression $3h + 5k + 4$ when $h = 2$ and $k = 3$

$$3(2) + 5(3) + 4 \\ 6 + 15 + 4 = 25$$

- 6) Use the distributive property to write in expanded form: $-4(x+6)$

$$-4(x+6) = -4(x) + -4(6) \\ -4x + -24$$

- 7) Use the distributive property to write in factored form & then simplify:

$$3 \cdot 12 + 3 \cdot 8$$

$$= 3(12 + 8)$$

$$= 3(20)$$

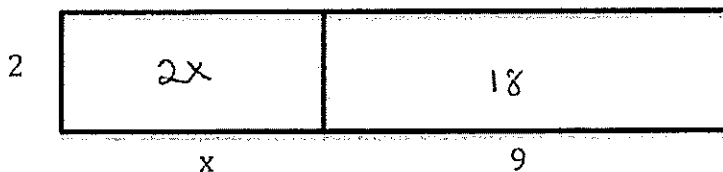
$$= 60$$

Key

Distributive Property Station #2

Remember to COMPLETELY SIMPLIFY

- 1) Write two expressions, one in factored form and one in expanded form, to represent the area of the largest rectangle below.



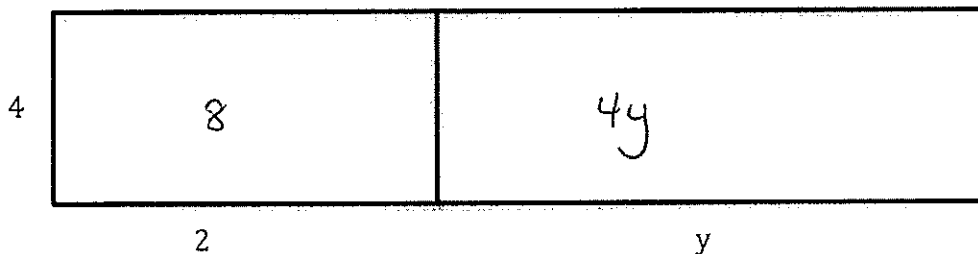
$2(x+9)$ factored form
 $2x+18$ expanded form

2) $2(x+7)$
 $2(x) + 2(7)$
 $2x + 14$

3) $5(c+3)$
 $5(c) + 5(3)$
 $5c + 15$

4) $8 - 4(3x+10)$
 $8 + -4(3x+10)$
 $8 + -4(3x) + -4(10)$
 $8 + -12x + -40$
 $-12x + -32$ or $-32 + -12x$
 5) $6(3r+8) - 15$
 $6(3r) + 6(8) - 15$
 $18r + 48 - 15$
 $18r + 33$

- 6) Write two expressions, one in factored form and one in expanded form, to represent the area of the largest rectangle below.



$4(2+y)$ factored form
 $8 + 4y$ expanded form

Factoring

1.) $8b + 20 = 4(2b + 5)$

$\begin{matrix} 2 \cdot 4 \\ 1 \cdot 8 \end{matrix}$ $\begin{matrix} 2 \cdot 10 \\ 1 \cdot 5 \end{matrix}$

3.) $3a + 12 = 3(a + 4)$

$\begin{matrix} 1 \cdot 3 \\ 4 \cdot 3 \end{matrix}$ $\begin{matrix} 1 \cdot 12 \end{matrix}$

2.) $-5h - 45$
 $-5h + -45$
 $-5(h+9)$ or $5(-h-9)$

4.) $33 - 9y = 3(11 - 3y)$

$\begin{matrix} 3 \cdot 11 \\ 1 \cdot 33 \end{matrix}$ $\begin{matrix} 3 \cdot 3 \\ 1 \cdot 9 \end{matrix}$ or $3(11 + -3y)$

Key

Combining Like Terms Station #3

Remember to COMPLETELY SIMPLIFY

1) $-4b + 3 - 11b - 7$

$-4b + 3 + -11b + -7$

$-15b + -4$

2) $-r - 3 + 9 - 4r$

$-r + -3 + 9 + -4r$

$-5r + 6$

3) $7p - 12 - 17$

$7p + -12 + -17$

$7p + -29$

4) $2a - 17 + 20a - 9$

$2a + -17 + 20a + -9$

$22a + -26$

5) $(-5x + 2) + (-4 + -x)$

$-5x + 2 + -4 + -x$

$-6x + -2$

6) $10c + 4(4c - 6)$

$10c + 4(4c) - 4(6)$

$10c + 16c - 24$

$26c - 24$ or $26c + -24$

7) $(6 + 3y) + (y - 2)$

$4y + 4$

$6 + 3y + y + -2$

8) $8t + 5(7 + 4t) + 13$

$8t + 5(7) + 5(4t) + 13$

$8t + 35 + 20t + 13$

$28t + 48$

9) $-8(4 - 5z) + 4(7z - 10)$

$-8(4 + -5z) + 4(7z + -10)$

$-8(4) + -8(-5z) + 4(7z) + 4(-10)$

$-32 + 40z + 28z + -40$

$68z + -72$

10) $(4x + 3) + (-x + 7) + (4 + 2x)$

$(4x) + 3 + (-x) + 7 + 4 + (2x)$

$5x + 14$

Key

Verbal and Algebraic Expressions Station #4

Translate each problem to its opposite form: verbal to algebraic and algebraic to verbal

- 1) Some number plus 7

$$n + 7$$

- 7) $3x - 8$ - Three times a number ⁸ minus
- three times a number decreased by 8

- 2) $5x$

- Five times a number
- the product of five and a number

- 8) $\frac{3}{4}x$ three fourths of a number
three fourths times a number

- 3) $\frac{x}{3}$

- a number divided by three
- the quotient of a number & three

- 9) Some number split into seven equal parts

$$\frac{n}{7} \text{ or } n \div 7$$

- 4) Some number increased by another number twice its size

$$n + 2n$$

- 10) Twice the quantity of some number and eleven

$$2(n + 11)$$

- 5) Eleven less than some number

$$n - 11$$

- 11) One-third the quantity of some number less than fifteen

$$\frac{1}{3}(15 - n)$$

- 6) Double the amount of some number

$$2n$$

- 12) Twelve less than some number

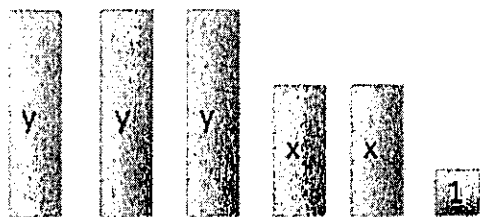
$$n - 12$$

Key

Algebra Tiles Practice Problems

Station #5

1. In simplest form, write the expression represented by the algebra tiles.



$$3y + 2x + 1$$

2. In simplest form, write the expression represented by the algebra tiles.



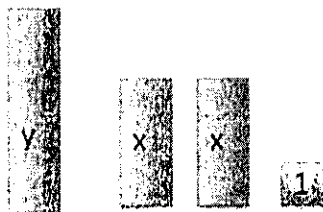
$$2y + 4x + 2$$

3. Add the expressions from problem numbers 1 and 2. Write the final answer in simplest form.

$$(3y + 2x + 1) + (2y + 4x + 2)$$

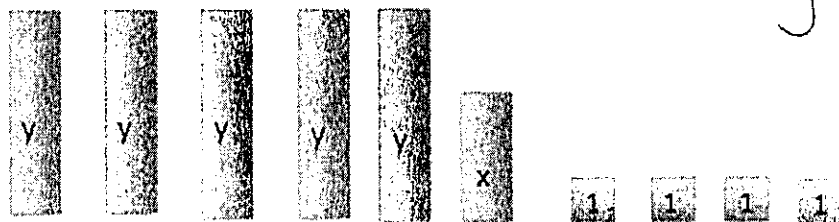
$$5y + 6x + 3$$

4. In simplest form, write the expression represented by the algebra tiles.



$$1y + 2x + 1$$

5. In simplest form, write the expression represented by the algebra tiles.



$$5y + 1x + 4$$

6. Add the expressions from problem numbers 4 and 5. Write the final answer in simplest form.

$$(1y + 2x + 1) + (5y + 1x + 4)$$

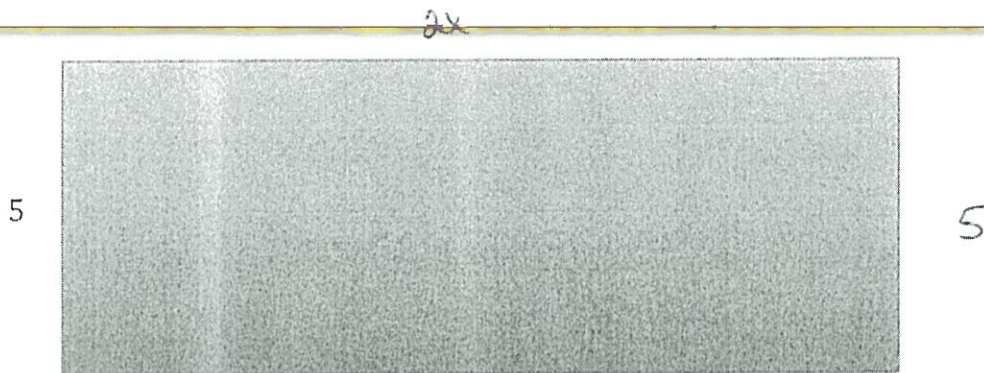
$$6y + 3x + 5$$

Key

Station #6

Perimeter

Write a SIMPLIFIED expression for the perimeter for the following shapes:



$2x$

$$5 + 5 + 2x + 2x =$$
$$\text{or } 2(5) + 2(2x)$$

$$10 + 4x$$

$$(3x-2) + (3x-2) + (3x-2)$$

$3x-2$

$3x-2$

$$9x - 6$$

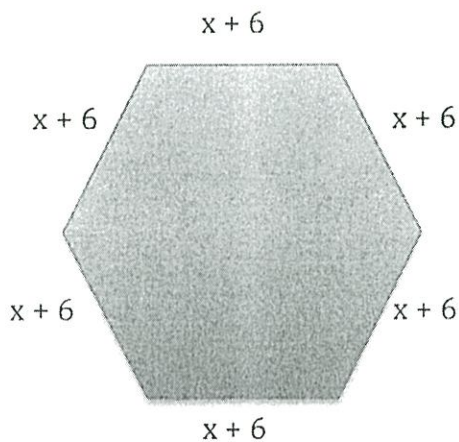


$3x-2$

$$3(3x-2) =$$

$$9x - 6$$

or $9x - 6$



$$6(x+6)$$

$$6x + 36$$

$$(x+6) + (x+6) + (x+6) + (x+6) + (x+6) + (x+6) = 6x + 36$$