



## Review and Algebra Unit Test

Suggested time: 100 min

### **What's important in this lesson:**

This is your opportunity to prepare for your algebra test.

### **Complete these steps:**

1. Complete the Review Activity.
2. Check your answers with the teacher
3. Write the test. You may use your algetiles if you would like to.

### **Hand-in the following to your teacher:**

1. Unit Test

### **Questions for the teacher:**



## Algebra Review Activity

### **Collecting like terms**

Like terms must have the same \_\_\_\_\_ and \_\_\_\_\_.  
 When moving terms in an expression, the term takes the sign \_\_\_\_\_ it.  
 Add or subtract as indicated and keep the \_\_\_\_\_ portion of the term.

### **Expanding – Multiplying a Monomial by a Polynomial**

A monomial has \_\_\_\_\_ term.  
 A polynomial has \_\_\_\_\_ term.  
 To expand, we can use the \_\_\_\_\_ property.

Example:  
 $-6(2x - 3)$

-6 is the \_\_\_\_\_.  
 $(2x - 3)$  is the \_\_\_\_\_. To do this example, we need to \_\_\_\_\_  
 each term in the polynomial by the \_\_\_\_\_.

$$\begin{aligned} & -6(2x - 3) \\ & = (-6)(2x) - (-6)(3) \\ & = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} \end{aligned}$$

### **Solving Equations**

The goal when solving equations is to \_\_\_\_\_ the variable. We can do this  
 by performing \_\_\_\_\_ to undo those that surround the variable.

Example:

$$\begin{aligned} 3x - 15 &= x + 3 \\ 3x - 15 + \underline{\hspace{2cm}} &= x + 3 + \underline{\hspace{2cm}} \\ 3x &= x + 18 \\ 3x - \underline{\hspace{2cm}} &= x - \underline{\hspace{2cm}} + 18 \\ 2x &= \underline{\hspace{2cm}} \\ \frac{2x}{\underline{\hspace{2cm}}} &= \frac{\underline{\hspace{2cm}}}{\underline{\hspace{2cm}}} \\ \underline{\hspace{2cm}} &= \underline{\hspace{2cm}} \\ x &= \underline{\hspace{2cm}} \end{aligned}$$

Undo the - 15  
 Simplify  
 We want all of the "x"s on  
 the same side.  
  
 Simplify  
 Undo the "2"  
  
 State your solution.

<b>WORD BANK</b>		
<i>Variable</i>	<i>multiply</i>	<i>In front</i>
<i>Behind</i>	<i>one</i>	<i>Polynomial</i>
<i>Monomial</i>	<i>18</i>	<i>-12x</i>
<i>determine</i>	<i>distributive</i>	<i>More than one</i>
<i>-6</i>	<i>Exponent</i>	<i>Opposite operations</i>
<i>2x</i>	<i>18</i>	<i>x</i>



2

15

9

1. Calculate.

(a)  $2-5+6$

(b)  $-7+3^2-1$

(c)  $(+2)-(-5)$

(d)  $(+5)+(+2)-(-1)$

(e)  $(+4)(-2)+(-7)$

(f)  $(+16)\div(-4)+(-2+5)$

(g)  $(-1)(+10)-(-8)\div(-2)$

(h)  $2^2-(-3)(-4)\div(-5+1)$

2. Expand.

(a)  $2(x-5)$

(b)  $-3(6-2x)$

(c)  $x(4x+5)$

(d)  $-3x(2x-7)$

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

(f)  $-4x(3x^2+x+5)$

3. Simplify.

(a)  $3x-6+5x-7$

(b)  $-4x^2+7x-3x^2-6$

(c)  $2(x+5)+4(2x-1)$

(d)  $x(4x^2-3x-1)-2x(x^2+5x-6)$



4. Solve. Check your solution.  
(a)  $2x - 7 = 23$                       (b)  $-2(x - 5) = x - 2$
5. Solve.  
(a)  $5x - 2 = 8$                       (b)  $2y - 4 = 18$
- (c)  $5 - m = 18$                       (d)  $5a - 20 = 0$
- (e)  $3y - 7 = 11$                       (f)  $\frac{x}{3} - 7 = 1$
6. Write two different equations that have the solution  $x = -1$ . Solve each equation to check.
7. Gerrie earned \$20 more cutting lawns on Tuesday, than on Monday. She earned a total of \$140 on these two days. Solve the following equation,  $2x + 20 = 140$ , to determine the amount Gerrie earned on Monday.

Student Handout: Unit 1 Lesson 5





**Summative Unit Test**

1. Calculate. Show your work.

(a)  $10 - 4 \times 2$

(b)  $7 \times 3 - 8 \div 4$

(c)  $5 + 3^2(5 - 3)$

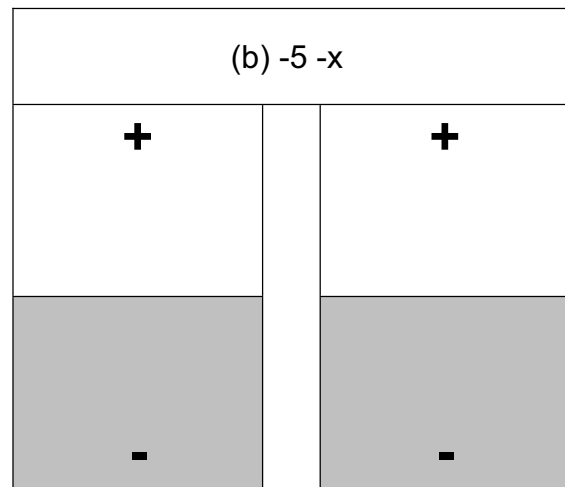
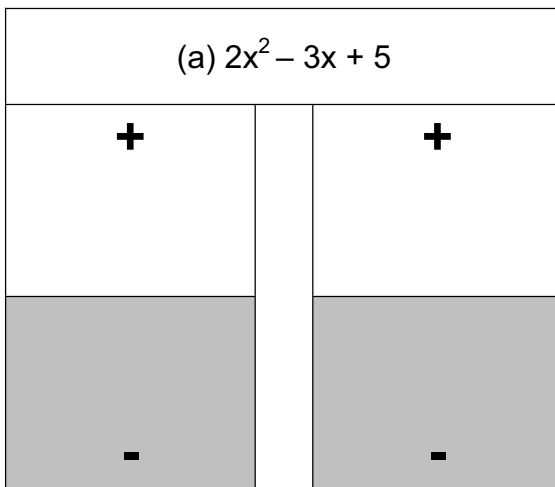
(d)  $-6 + 2(-5)$

(e)  $(-4)(-2) + (-8) \div (+2)$

(f)  $-18 + 16 - (+3)(-4)$

2. Use algebra tiles to represent each polynomial. Draw your representation here.

{k4}



3. Simplify.



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

{k2}

(b)  $(5x - 3x^2) + (4x^2 - 2x)$

{k2}

(c)  $(3x^2 + 5x + 7) - (2x^2 - 4x + 9)$

{k2}

(d)  $(5x - 2) - (2x^2 - 3x + 3)$

{k2}

4. Expand.

(a)  $2(x + 1)$

(b)  $-5(1 - 2x)$

{k4}

(c)  $3x(5 - x)$

(d)  $-3(2x^2 - 3x + 1)$

{k4}

5. Solve and check.

Assessment and Evaluation: Unit 1 Lesson 5



{k4} (a)  $x + 5 = 0$

(b)  $y - 6 = -7$

{k6} (c)  $\frac{x}{5} + 6 = 6$

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



6. The **area** of a rectangle can be found by multiplying its length  $\times$  width.  
(area = length  $\times$  width)

The **perimeter** is the distance around the figure, and can be found by adding the lengths of all the sides. (perimeter = length + width + length + width)

For each of the following rectangles:

- (a) write a polynomial to represent the area of that rectangle.  
(b) Write a polynomial to represent the perimeter.

{ap8}

	$2x + 1$  $3x$
<b>Area =</b>	<b>Area =</b>
<b>Perimeter =</b>	<b>Perimeter =</b>

7. Write an equation for the word problem. Then solve and check.

Members of a school band sold chocolate bars to raise money. Mario sold twice as many bars as Sean. They sold a total of 48 bars. How many did each boy sell?

{i6}

{c2}

Let  $x$  be the number of bars Sean sold  
And  $2x$  be the number of bars Mario sold

Solve  $x+2x = 48$  to find the number of bars each boy sold