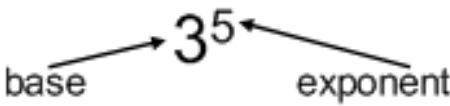
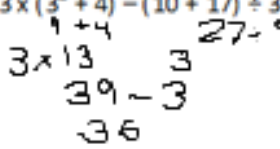



Name \_\_\_\_\_

Unit 1 Test Review

<p>Exponents</p>  <p>repeated multiplication; multiply the base number by itself the number of time of the exponent</p>	<p>Write <math>8^3</math> as products and evaluate it.</p> $8 \times 8 \times 8 = 512$ <hr/> <p>Write <math>7 \times 7 \times 7 \times 7</math> as an exponent.</p> $7^4$ <hr/> $3^n = 81$ $3 \times 3 = 9, 9 \times 3 = 81, \text{ so } n = 3$
<p>Order of Operations</p> <p>P - Parenthesis E - Exponents M - Multiply <math>\left. \begin{array}{l} \phantom{M} \\ \phantom{M} \end{array} \right\}</math> left to right D - Divide <math>\left. \begin{array}{l} \phantom{D} \\ \phantom{D} \end{array} \right\}</math> left to right A - Add <math>\left. \begin{array}{l} \phantom{A} \\ \phantom{A} \end{array} \right\}</math> left to right S - Subtract <math>\left. \begin{array}{l} \phantom{S} \\ \phantom{S} \end{array} \right\}</math> left to right</p>	<p>Evaluate: <math>3 \times (3^2 + 4) - (10 + 17) \div 3^2</math></p>  <hr/> <p>Students were told to evaluate the expression <math>3(3-1)^2</math>. Logan got 36. Hailie got 12. Who is correct? Why?</p> <p>Hailie is right because u'd do the parenthesis first: <math>3-1=2</math>; the exponent next: <math>2^2=4</math>; and multiplication last: <math>3 \times 4 = 12</math>.</p>
<p>Commutative</p>	$3 \times 2 = 2 \times 3$ $5 + 6 = 6 + 5$
<p>Associative</p>	$(3 + 5) + 6 = 3 + (5 + 6)$
<p>Identity (+, -)</p>	$6 + 0 = 6$ $5 - 0 = 5$
<p>Identity (x, ÷)</p>	$5 \times 1 = 5$ $6 \div 1 = 6$
<p>Zero</p>	$21 \times 0 = 0$
<p>Distributive</p>	<p>Demonstrate Property     <math>3(5 + 6) = (3 \times 5) + 3 \times 6</math></p> <hr/> <p>Simplify <math>3 \times 27</math> using the distributive property.</p> $3(27)$ $3(20 + 7)$ $(3 \times 20) + (3 \times 7)$ $60 + 21$ $81$

<p>Words that mean add</p> <p>add plus more increase</p>	<p>Words that mean subtract</p> <p>subtract minus less decrease</p>	<p>sum</p> <p>difference</p>
<p>Words that mean multiply</p> <p>multiply product per times</p>	<p>Words that mean divide</p> <p>divide groups quotient break apart</p>	
<p>Write the expression: the product of a number and 3</p> <p style="text-align: center;"><math>3n</math></p>		
<p>Olivia started with an unknown amount of M&amp;Ms. Her mother gave her 10 more. She then shared 3 with Alyssa and 2 with Jeffrey. Write an expression that shows how many M&amp;Ms she had left at the end.</p> <p style="text-align: center;"><math>M + 10 - 3 - 2</math></p>		
<p><b>Combining Like Terms</b> Combining like terms is like putting similar candies into piles. Remember we had 3 different types:</p> <p>With a variable and an exponent: <math>4x^2, 7x^2, -3x^2</math> With just a variable: <math>5x, 9x, -2x, x</math> Just numbers: <math>3, -6, 5, 2</math></p> <p>Also remember different variables are different terms. <math>6a</math> would not be like <math>8b</math></p>	 <p style="text-align: center;"><math>3a^2 - a^2 + 4a + 3a + 4 - 3</math></p> <p style="text-align: center;"><math>2a^2 + 7a + 1</math></p>	
<p><b>Monomial</b> a set of numbers and variables being multiplied together</p>	<p>Example</p> <p style="text-align: center;"><math>6b^2</math></p>	
<p><b>Polynomial</b> a group of monomials being added together</p>	<p>Example</p> <p style="text-align: center;"><math>2a^2 + 7a + 1</math></p>	
<p><b>Variable</b> a letter that represents an unknown number</p>		
<p><b>Coefficient</b> the number in front of a variable. If there is no number in front of the variable, the coefficient is 1.</p>	<p>Example</p> <p style="text-align: center;"><math>(2)a^2 + (7)a + 1</math></p>	
<p><b>Term</b> one of the monomials within a polynomial</p>		

Like t

Circle the terms  
 Underline the coefficients  
 Square the variables

$$\textcircled{3x^2} + \textcircled{2y} + \textcircled{3}$$

Evaluate this expression if  $x=3$  and  $y=2$

$$3x+2(2x^2-4y) \qquad 3(3) + 2(2(3)^2 - 4(2))$$

$$\qquad \qquad \qquad 9 \qquad | \quad 2(9) \qquad - \quad 8$$

$$\qquad \qquad \qquad \qquad \qquad \qquad 2(18 - 8)$$

$$\qquad \qquad \qquad \qquad \qquad \qquad 2(10)$$

$$\qquad \qquad \qquad \qquad \qquad \qquad 9 + 20 = 29$$

Using complete sentences, explain the order of operations you used in the above expression

You started by doing the exponent  $x^2$ . You then multiply and subtract what's in the parenthesis. You then have to multiply what was in the parenthesis by 2 and multiply the 3x. Finally you can add that together.

Equivalent Expressions

Expressions can be written in different ways and still mean the same thing. Like  $20 + 7$  is equal to 27. This will involve combining and separating like terms.

Write three equivalent expression to  $6x + 11$

1.  $3x + 3x + 11$
2.  $6x + 5 + 6$
3.  $3x + 3x + 6 + 5$

My student studied for the test for at least 30 minutes.

Parent Signature \_\_\_\_\_ Date \_\_\_\_\_