

**Math 6 - Unit 3: Expressions**  
End of Unit Study Guide

Name: KEY

Class Period: 1 2 3 4 Date: \_\_\_\_\_

- 1) What is the name of a number that multiplies a variable, such as the "9" in the term "9x"?  
**coefficient**
- 2) Evaluate:  $(6^2 - 8 \div 4) + 27$   $(36 - 8 \div 4) + 27 \rightarrow 34 + 27 = \boxed{61}$   
 $(36 - 2) + 27$
- 3) Write in exponential form:  $7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 = 7^5$
- 4) Evaluate  $3n^2 + 4n - n$  if  $n = 7$   $3(7^2) + 4(7) - 7 \rightarrow 72 + 28 - 7 \rightarrow \boxed{93}$   
 $3(49) + 28 - 7 \rightarrow 100 - 7$
- 5) Write an expression that represents "12 more than a number?"  
 **$n + 12$**
- 6) Simplify this expression by combining like terms:  $7n + 15n^2 + 13n - 14n^2 - n + 17n = \boxed{36n + n^2}$
- 7) The cost of seeing a movie is \$8.25 for admission, plus an additional \$2.25 for each snack purchased. Write an expression to represent the cost of seeing a movie and purchasing  $s$  snacks.  
 **$8.25 + 2.25s$**
- 8) Translate into an algebraic expression: **nine more than the quotient of seven cubed and six.**  $\frac{7^3}{6} + 9$
- 9) Melissa and 4 of her friends rent a movie for \$5 and buy  $n$  medium drinks for \$3 each. If they split these costs evenly, write an expression that can be used to find the amount each girl should pay?  
 **$\frac{5 + 3n}{5}$**
- 10) If the formula for the area of a triangle is  $\frac{1}{2}bh$ , find the area of a triangle with a base of 15 and a height of 16.  
 $\frac{1}{2}(15)(16) = \frac{1}{2}(16)(15) = 8 \cdot 15 = \boxed{120}$
- 11) Evaluate "4 cubed."  $4^3 = 4 \cdot 4 \cdot 4 = \boxed{64}$
- 12) Simplify the expression  $7(n + 3) + 12n - 10$   $7n + 21 + 12n - 10 = \boxed{19n + 11}$
- 13) What are like terms? **Terms with same variable to the same power.**
- 14) Apply the distributive property to simplify the expression:  $12(17x + 19) = \boxed{204x + 228}$
- 15) The expression  $120 + 0.30m$  can be used to find the total price for renting a car, where  $m$  represents the number of miles driven. Determine the cost if  $m = 130$  miles in the rental car.  
 $120 + .3(130)$   
 $120 + 39 = \boxed{\$159}$
- 16) Factor to write an expression that is equivalent to  $30x + 5$ .  
 **$5(6x + 1)$**
- 17) Which expression is NOT equivalent to the others?  
A)  $7(6 + 9)$     B)  $42 + 63$     C)  $7 \cdot 15$     D)  $7(6) \cdot 7(9)$
- 18) Write an example of the **commutative property**?  $\boxed{2 + 3 = 3 + 2}$
- 19) Label the parts of the expression:  $4n + 15$   
coefficient: 4, variable:  $n$ , constant: 15
- 20) A family of four (2 adults and 2 kids) is going to the pumpkin patch. Regular admission is \$12 for adults and \$4 for kids. How much will they pay to get in?  
 $2(12) + 2(4) =$   
 $24 + 8 = \boxed{\$32}$