**2-4 VARIABLES AND EQUATIONS**

**Equation:  a mathematical \_\_\_\_\_\_\_\_\_\_\_\_ with an equal sign.**

**9 + 2 = 11**

**numerical expression = numerical expression**

**x + 7 = 37**

**variable expression = numerical expression**

**a + (-3) = 2a + 5**

**variable expression = variable expression**

**An equation with a numerical expression  =  numerical expression is true or false.**

**An equation with one or more variables is an \_\_\_\_\_\_\_\_\_sentence.**

**EX:  6 + 12 = 18   True  18 = 18**

**6 = 4 + 3   False  6 = 7**

**6y = 3 + 5y   Open sentence  variable is y**

**CHECKING EQUATIONS USING SUBSTITUTION**

**Solution of an equation: a value for a variable that makes an equation \_\_\_\_\_\_\_\_\_\_.**

**EX:  170 + x = 200, solution is 30**

**170 + 30 = 200  balanced, YES**

**8 + t = 2t             t = 1**

**8 + 1 = 2(1)**

**9 = 2                    balanced, NO**

**9 – m = 3          m = 6**

**9 – 6 = 3**

**3 = 3                 balanced, YES**

**EX:  Write an equation for nine times the opposite of five is forty-five.  State whether the equation is true/false/open sentence.  Page 83  #2**