Algebra 1 S2   Name: _____ Block: _____

Topic: Solving   ## Zero Product Property

Level 2	Level 3	Level 4

Students will recognize or recall specific vocabulary such as: *quadratic equation, quadratic formula*
 Students demonstrate they have developed the ability to:
 • Solve quadratic equations in one variable using:
     o Zero Product Property
     o Factoring
	Students demonstrate they have developed the ability to:
	 • Solve quadratic equations in one variable using:
	     o Quadratic Formula
	     o Taking Square Roots
		• Students will demonstrate they have developed the ability to extend their level 3 knowledge to systems with three variables.

Level 2

1. Find the solutions using the Zero Product Property (ZPP). (*Choose 5 to complete. Do the rest for more practice*).

   a. $(x + 3)(x - 2) = 0$

   $x = -3,\ x = 2$

   b. $(x - 4)(x + 8) = 0$

   $x = 4,\ x = -8$

   c. $(2x + 8)(x + 9) = 0$

   $x = -4,\ x = -9$

   d. $(x - 7)(3x - 9) = 0$

   $x = 7,\ x = 3$

   e. $(x + 6)(-4x + 8) = 0$

   $x = -6,\ x = 2$

   f. $(x - 4)(x + 5) = 0$

   $x = 4,\ x = -5$

   g. $(3x + 12)(4x - 12) = 0$

   $x = -4,\ x = 3$

   h. $(x + 11)(x - 10) = 0$

   $x = -11,\ x = 10$

   i. $(-2x + 16)(x - 6) = 0$

   $x = 8,\ x = 6$

   j. $(5x - 10)(2x + 4) = 0$

   $x = 2,\ x = -2$

2. Find the solutions using the Zero Product Property (ZPP). (*Hint: these problems are not factored. Factor then do ZPP.,*)

a. $2x^2 - 10x = 0$

$x=0, \ x=5$

d. $x^2 = 9$

$x=3, \ x=-3$

b. $5x = 20x^2$

$x=0, \ x=\frac{1}{4}$

e. $b^2 + 8b = 0$

$b=0, \ b=-8$

c. $x^2 - 49 = 0$

$x=7, \ x=-7$

f. $x^2 - 15x = -50$

$x=5, \ x=10$