

## Section 2- Topic 4

### Solving Equations Using the Zero Product Property

1. Solve the following equation using the zero product property.

$$(x + 8)(x + 11) = 0$$

2. Solve the following equation using the zero product property.

$$(x + 9)(4x - 1) = 0$$

3. Solve the following equation using the zero product property.

$$5(-v - 5) \cdot 3(v - 8) = 0$$

4. Manny was given the equation  $(x + 2)(x - 17) = 0$  and asked to find the zeros. The solutions he came up with were  $x = 2$  and  $x = -17$ .

Are his solutions correct? Justify your answer.

5. Which equations have the same pair of solutions? Select all that apply.

☐  $(x + 6)(x - 6) = 0$

☐  $(x + 6)(x + 6) = 0$

☐  $(x - 6)(x - 6) = 0$

☐  $(2x + 12)(2x - 12) = 0$

☐  $(2x - 12)(x - 12) = 0$

☐  $(x + 12)(x - 12) = 0$

☐  $(x + 12)(x - 6) = 0$

6. Ted and Maggie solved the following equation,  $(3x - 2)(x + 5) = 0$ . Their work is shown below.

Ted

$$(3x - 2)(x + 5) = 0$$

$$3x - 2 = 0 \quad \text{or} \quad x + 5 = 0$$

$$3x = 2 \quad \text{or} \quad x = -5$$

$$x = \frac{2}{3} \quad \text{or} \quad x = -5$$

Maggie

$$(3x - 2)(x + 5) = 0$$

$$3x - 2 = 0 \quad \text{or} \quad x + 5 = 0$$

$$3x = -2 \quad \text{or} \quad x = 5$$

$$x = -\frac{2}{3} \quad \text{or} \quad x = 5$$

Who is correct? Correct the mistake in the incorrect work.