

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

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

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

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

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

Maggie

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

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

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

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

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