Zero Product Property: States that if a · b = 0, then a = 0 or b = 0 or both a and b = 0.

$4 \cdot 0 = 0$ $0 \cdot 0 = 0$ $0 \cdot 5 = 0$

We use the Zero Product Property to solve polynomial equations in factored form:

- Make sure the polynomial is set equal to 0
- Make sure the polynomial is in Factored form, if it isn't you must factor it.
- Set each of your factors equal to zero and solve.
- These give you the roots, zeros, solutions, or x – intercepts of your parabola.

* leave all answers as simplified fractions or reduced improper fractions *

Example:

1. $(x-4)(x+3)=0$

$x-4=0$ $x+3=0$

$x=4$ $x=-3$

2. $(x+5)(x-1)=0$

$x+5=0$ $x-1=0$

$x=-5$ $x=1$

3. $(2x-3)(x+8)=0$

$2x-3=0$ $x+8=0$

$+3 \quad +3$

$\frac{2x}{2}=\frac{3}{2}$

$x=-8$

$x=3/2$

4. $(2x-1)(3x-4)=0$

$2x-1=0$ $3x-4=0$

$x=1/2$ $x=4/3$

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

$x=0$ $x=-4$

6. $x(x-3)(x+5)=0$

$x=0$

$x=3$

$x=-5$