

Day 2: Factoring to Solve a Quadratic

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Date _____

Zeros vs x-intercepts

1) Zeros:

2) x-intercepts:

Finding the zeros or x-intercepts of a quadratic function from Factored Form.

3) Remember the zero product property: if $ab = 0$ then $a = 0$, $b = 0$ or both a and b are 0.

This means that if $(x + 5)(x - 2) = 0$ then $x + 5 = 0$ and/or $x - 2 = 0$.

In order to use factoring to solve and graph your quadratic we do the following:

a) Change y to $y = 0$.

*When solving for zeros or x-intercepts, $y = 0$.

b) Factor the quadratic equation.

c) Solve for x .

Find the zeros of each quadratic function from Factored Form.

4) $y = (x + 3)(x - 6)$

5) $y = (7x - 8)(x - 7)$

6) $y = (8x - 7)(5x + 4)$

7) $y = (x - 7)(x - 4)$

8) $y = (5x + 2)(x - 5)$

9) $y = (x + 7)(x + 2)$

Find the zeros of each quadratic function by factoring.

10) $y = x^2 - 9x + 20$

11) $y = x^2 + 6x + 8$

12) $y = x^2 + 3x + 2$

13) $y = x^2 - 4$

14) $y = x^2 - 7x + 12$

15) $y = x^2 + 4x + 3$

16) $y = x^2 - 8x + 7$

17) $y = 4x^2 - 16x + 16$

18) $y = -4x^2 + 24x$

19) $y = x^2 - 1$

20) $y = x^2 + 8x + 16$

21) $y = x^2 - 4$

Find the x-intercepts from Factored Form.

22) $y = (x + 6)(x + 4)$

23) $y = (x + 7)(x - 1)$

24) $y = (x + 5)(8x - 3)$

25) $y = (x + 2)(5x + 3)$

Find the x-intercepts by factoring.

26) $y = x^2 + x - 2$

27) $y = x^2 - 12x + 32$

28) $y = x^2 - 4x$

29) $y = x^2 - 3x + 2$

30) $y = x^2 - 7x - 8$

31) $y = x^2 + 3x + 2$

32) $y = x^2 - 9x + 20$

33) $y = x^2 + 6x$

34) $y = x^2 + 8x + 16$

35) $y = x^2 - 10x + 24$