D5: Factored form Pt II WS B

October 1, 2017 2:27 PM

7.4 – Factored Form of a Quadratic

Find my Vertex!

Determine the vertex of each parabola.

1. $y = (x + 4)(x + 12)$
2. $y = (x - 7)(x - 1)$
3. $y = 2(x - 2)(x - 4)$
4. $y = -3(x + 2)(x + 8)$
5. $y = 8(x - 5)(x + 9)$
6. $y = -0.5(x - 1)(x + 7)$
7. $y = 6x(x - 2)$
8. $y = -3x(x - 8)$

1. $r = -4$ $s = -12$

$\frac{-4 + -12}{2} = -8$

$y = (-8 + 4)(-8 + 12)$

$= (-4)(4)$

$= -16$

$V(-8, -16)$

2. $(4, -9)$
3. $(3, -2)$
4. $(-5, 27)$
5. $(-2, -492)$
6. $(-3, 8)$
7. $(1, -6)$
8. $(4, 48)$

What's my y-Intercept?

Determine the y-intercept of each parabola.

$y = (x + 4)(x + 12)$

48

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

7

$y = 2(x - 2)(x - 4)$

16

$y = -3(x + 2)(x + 8)$

-48

$y = 8(x - 5)(x + 9)$

-360

$y = -0.5(x - 1)(x + 7)$

3.5

$y = 6x(x - 2)$

0

$y = -3x(x - 8)$

0

Part 3: Determine all of the interesting points for the following functions and then sketch the graph.

(x-intercepts, vertex, y-intercept)

$y = x^2 + 9x + 18$

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

x int: $-3, -6$

y int = 18

V(-1.5, -2.25)

$y = -x^2 - 3x - 2$

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

$y = -(x+1)(x+2)$

x int: $-1, -2$

y int = -2

V(-1.5, 0.25)

$y = 2x^2 - 16x + 30$

$y = 2(x^2 - 8x + 15)$

$y = 2(x-5)(x-3)$

x int = 3, 5

y int = 30

V(4, -2)

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

$y = (x-10)(x+3)$

x int: $-3, 10$

y int: -30

V(3.5, -42.25)

$y = x^2 - 16$

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

x int: $4, -4$

y int: -16

V(0, -16)

$y = -3x^2 - 12x$

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

x int = $0, -4$

y int = 0

V(-2, 12)