

Math 2

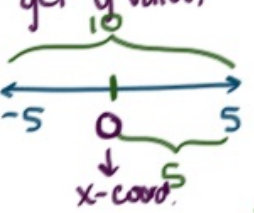
- toolkits
- gluesticks

Also...
take out HW

Quiz tomorrow

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	<p style="text-align: center;">Factored Form</p> $f(x) = k(x-a)(x-b)$ $= 2(x-5)(x+5)$
<p>X-intercepts</p>	<p>- Set factors equal to zero</p> <p>ex) $x-5=0$ $x+5=0$</p> $\begin{array}{r} x-5=0 \\ +5 \quad +5 \\ \hline x=5 \end{array}$ $\begin{array}{r} x+5=0 \\ -5 \quad -5 \\ \hline x=-5 \end{array}$ <p>①</p>
<p>Vertex</p>	<p>- find the x-value half way between the x-int. then plug in x into the equation to get y-value.</p>  $f(x) = 2(x-5)(x+5)$ $2(0-5)(0+5)$ $2(-5)(5) = -50$ <p>②</p> <p style="text-align: center;">Vertex: 0, -50</p>



Axis of Symmetry	<p>— the x-coordinate of the vertex x (vertical that goes through the vertex)</p> $\boxed{x = 0}$
Y-intercept	<p>— Plug in 0 for x-value then solve for y.</p> <p>ex) $f(x) = a(x-s)(x+s)$</p> $\begin{array}{c} \uparrow \quad \uparrow \\ 0 \quad 0 \\ a(0-s)(0+s) \\ a(-s)(+s) = -50 \end{array}$ $\boxed{\text{y-int: } (0, -50)}$

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1. $x^2 - 6x - 16$

	x	-8	
x	x^2	$-8x$	$II + III = -6$
$+2$	$+2x$	-16	$I \cdot IV = -16$

Factored form $(x+2)(x-8)$

x-int

$x+2=0 \rightarrow x=-2$

$x-8=0 \rightarrow x=8$

Calculator

$x-8=0 \rightarrow x=8$

$x+2=0 \rightarrow x=-2$

$(x-8)(x+2)$

Vertex

x -coord: -2 and 8 are 10 units apart. The vertex is at $x=3$.

$(x+2)(x-8)$

$(3+2)(3-8)$

$(5)(-5) = -25$

Vertex: $(3, -25)$

AoS: $x=3$


y-int: $x=0$

$(x+2)(x-8)$

$(0+2)(0-8)$

$(2)(-8) = -16$

y-int: $(0, -16)$

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1. $x^2 + 13x + 36$

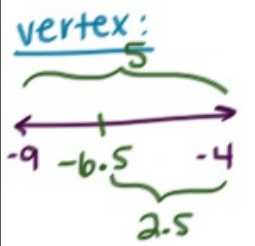
x	$+9$	
x^2	$9x$	$II + III = 13$
$+4$	36	$I \cdot IV = 36$

Factored form
x-int
Vertex
y-int.

factored Form:
 $(x+4)(x+9)$

$+9$	$+4$
3	12
2	18
1	36

x-int:
 $x+4=0 \Rightarrow x=-4$
 $x+9=0 \Rightarrow x=-9$

vertex:

 $(-6.5+4)(-6.5+9)$
 $(-2.5)(+2.5)$
 $= -6.25$
 Vertex: $-6.5, -6.25$

y-int: $x=0$
 $(0+4)(0+9)$
 $(4)(9) = 36 \rightarrow [0, 36]$

2. $(x-2)^2$
 \downarrow
 $(x-2)(x-2)$

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