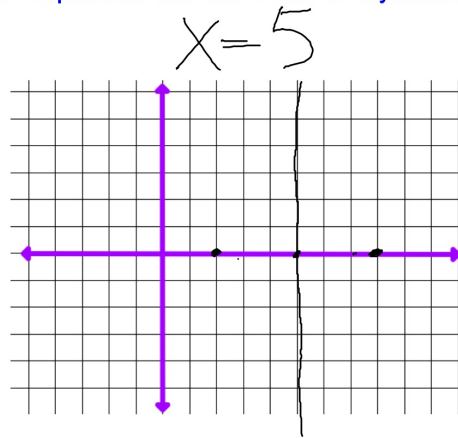


The x-intercepts of a parabola are 2 and 8,
find the equation for the Line of Symmetry.



$$y = (x + 6)(x - 14)$$

x-int: $-6, 14$
 LOS $x = \frac{-6 + 14}{2} = 4$

Vertex $(4, -100)$

y-int $(6)(-14) = -84$

Intercept Form (Factored Form)

$$Y = (x-m)(x+n)$$

- Find x-intercepts first: $x = m, -n$
- Find LOS: $x = \frac{m + -n}{2}$
- Find the Vertex $(\frac{m + -n}{2}, \quad)$
- Find y-int: Replace x with zero.

Forms for the Equation of a Quadratic

Standard Form

$$y = ax^2 + bx + c$$

LOS: $x = \frac{-b}{2a}$

Vertex: $(\frac{-b}{2a}, \quad)$

y - int: Replace x with zero **C**

Vertex Form

$$y = a(x - h)^2 + k$$

Vertex: (h, k)

LOS: $x = h$

y - int: Replace x with zero
it is NOT k

Intercept Form
(Factored Form)

$$y = (x-m)(x+n)$$

LOS: $x = \text{avg of x-int.}$

Vertex: $(\quad, \quad)$

y - int: Replace x with zero

$$y = (2x - 7)(2x + 3)$$

$$X\text{-int: } \frac{7}{2}, -\frac{3}{2}$$

LOS:

$$X = \frac{\frac{7}{2} + \frac{-3}{2}}{2} = \frac{2}{2} = 1$$

Vertex:

$$(1, -25)$$

y-int:

$$-21$$

$$2x - 7 = 0$$

$$2x = 7$$

$$x = \frac{7}{2}$$

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

$$X\text{-int} = 0, -6$$

$$3x = 0 \quad x = 0$$

LOS:

$$X = -3$$

$$X + 6 = 0 \quad x = -6$$

Vertex:

$$(-3, -27)$$

$$y\text{-int: } = 0$$

$$3(-3)(-3+6)$$

	x-intercepts	Eq for LOS:	y-intercept
1. $y = (x+7)(x-1)$	-7, 1	$x = -3$	
2. $y = (5x+3)(x-8)$	$-\frac{3}{5}, 8$		
3. $y = (2x-7)(4x+9)$	$\frac{7}{2}, -\frac{9}{4}$		
4. $y = 3x(x+10)$	0, -10		