Write what you remember about focus and directrix. About parabolas.

For 1 – 4 write the equation for each parabola. $x = \frac{1}{4p}(y - k)^2 + h \quad y = \frac{1}{4p}(x - h)^2 + k$

1. The focus is (0,3) and the directrix is *y* = -1

2. The vertex is (4,2) and it goes through (2, 6) oriented left

3. Goes through (2, 1) (4, 25) and (5, 46)

Y = 3x^2-6x+1

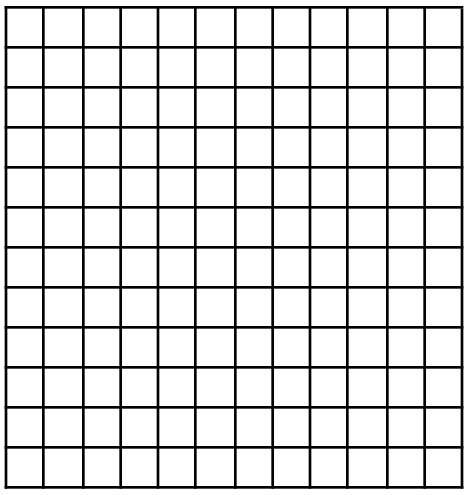
VPOP fails, why?

4. *x*-intercepts are (-4,0) and (2,0) and *y*-intercept (0,16)

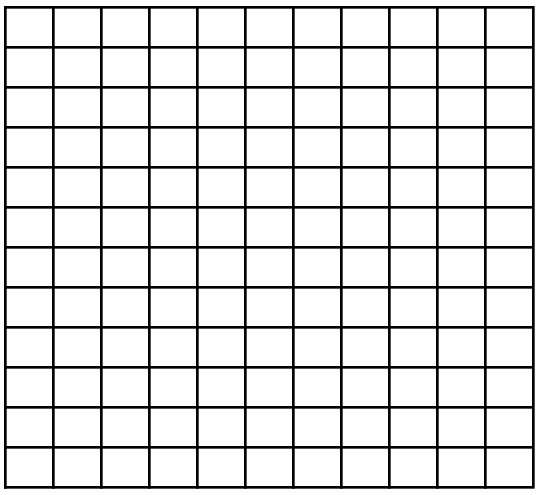
y = How can we find a?

VPOP fails, why?

$y = -\frac{1}{12}x^2$



$x = \frac{1}{16}y^2$



Vertex, directrix, axis of symmetry **Vertex, directrix, axis of symmetry**

	Intercept/Factored Form	Standard Form	Vertex Form
5	$y = -(x + 8)(x - 4)$	$y = -x^2 - 4x + 32$	$y = -(x - 2)^2 + 36$
6	$y = -2(x - 1)(x + 2)$	$y = -2x^2 - 2x + 4$	$y = -(x + 1)^2 + 36$
7		$y = 2x^2 - 20x + 51$	$y = 2(x - 5)^2 + 1$
8	$y = 2(x - 4)^2$		$y = 2(x - 4)^2$
9		$y = 2x^2 - 8x + 6$	

Complete the square?

$y = 2x^2 - 20x + 51$ 1) factor out a (leading coefficient)

$y = 2(x^2 - 10x\ ) + 51$ question: how do I make x^2 -10x a perfect square → half of b

$y = 2(x - 5)(x - 5) + 51$ what did I just add to right hand side? What do I have to do now? Subtract a * (b/2)^2

$y = 2(x - 5)^2 - 2 * 25 + 51$

$y = 2(x - 5)^2 + 1$

www.desmos.com

AC =

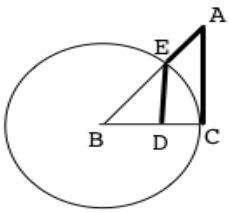
AB =

BC = BE = 1

sin B =

cos B =

tan B =



Graph $y = \tan(x)$

What is the period of tangent?
What is the amplitude?

Where is tangent undefined?

=