

Chap 17 Test Review

which are Quadratic

A) $y = 7x^2 - 3x$ ✓

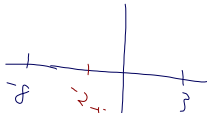
$y = 4x^3 - 7$

$y = \frac{1}{4}x^2 - 3x + 8$ ✓

$y = 6x - 8$

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

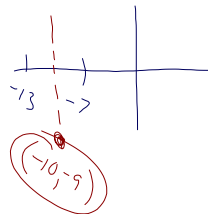
Find the Axis of Symmetry

$$x = \frac{-8+3}{2} = -2.5$$


$x = -2.5$

C) $y = (x+7)(x+13)$

Find the vertex.



$$x = \frac{-13 + -7}{2} = -10$$

vertex $(-10, -9)$

D) $y = -2x^2 + 18x - 16$

Find the vertex

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

$x = \frac{-18}{-4} = \frac{9}{2}$

$y = -2\left(\frac{9}{2}\right)^2 + 18\left(\frac{9}{2}\right) - 16$



$$\left(\frac{9}{2}, \frac{49}{2}\right)$$

$$E) y = -\frac{1}{3}x^2 + 7x - 8$$

Which direction does
it open

$\left(-\frac{1}{3}\right)$ Down

F) Which is wider

$$y = 3x^2$$

or

$$y = -\frac{1}{3}x^2$$

$$y = 4x^2 \quad y = 5x^2$$

G) Find the domain
& Range if vertex
is $(-1, 6)$ and parabola
opens down.

$$D: (-\infty, \infty) \quad R: (-\infty, 6]$$



H) Find the value given
 $(3,0)$ $(7,0)$ and $(0,6)$
 are points on parabola.

$$y = a(x - z_1)(x - z_2)$$


$$y = a(x - 3)(x - 7)$$

use $(0,6)$ to find a

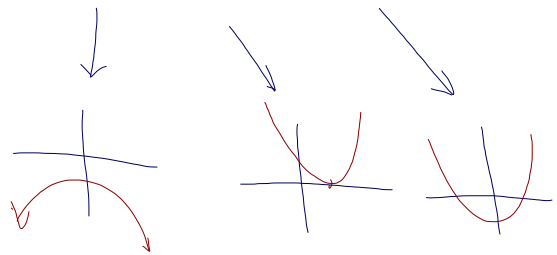
$$6 = a(0 - 3)(0 - 7)$$

$$6 = a(21)$$

$$a = \frac{6}{21}$$

$$y = \frac{6}{21}(x - 3)(x - 7)$$

I) Sketch a parabola's
 with solution of
 0 , 1 , and 2



J) If $x = 4$ is a root
 then a factor is?

$$(x - 4) \quad x = -3$$

$$(x + 3)$$

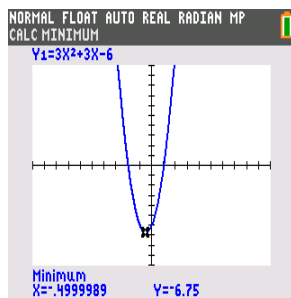
K) $x = \frac{-b}{2a}$ can
 find what two
 things?

1) Axis of Symmetry.

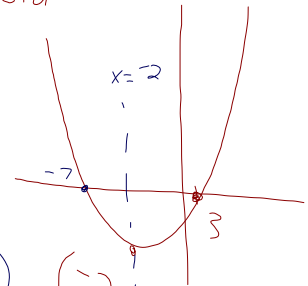
2) x-coordinate of vertex.

4) Find the Domain
& Range for
 $y = 3x^2 + 3x - 6$

D: $(-\infty, \infty)$ R: $[-6.75, \infty)$



m) Write the General form for parabola



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

Use $(-2, -7)$ to find a

$$-7 = a(-2+7)(-2-3)$$

$$-7 = a(-25)$$

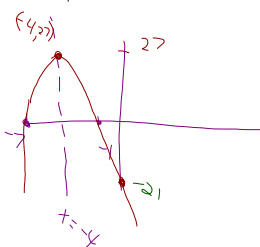
$$a = \frac{7}{25}$$

$$y = \frac{7}{25}(x+7)(x-3)$$

N) Sketch graph

of $y = -3(x+7)(x+1)$

(y-int, x-int, vertex, A.O.S)



$$y = -3(-4+7)(-4+1)$$

$$y = 27$$

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

$$y = -3(0+7)(0+1)$$

$$y = -21$$

O) Write the gen. form of quad $y = ax^2 + bx + c$ with x-int $(-3, 0)$ and $(9, 0)$ and y-int $(0, -12)$

$$y = a(x+3)(x-9)$$

$$-12 = a(0+3)(0-9)$$

$$-12 = a(-27)$$

$$\frac{12}{27} = a$$

$$y = \frac{12}{27}(x+3)(x-9)$$

$$y = \frac{12}{27}(x^2 - 6x - 27)$$

$$y = \frac{12}{27}x^2 - \frac{72}{27}x - 12$$

$$y = \frac{4}{9}x^2 - \frac{8}{3}x - 12$$

