Graph the following equation:

$f(x) = 2x^2 - 8x - 24$ $2(2)^2 - 8(2) - 24$

$x = \frac{8}{2(2)} = \frac{8}{4} = 2$

V: (2, -32)

x-intercept(s): $y = 2x^2 - 8x - 24$ 1, 12, 3, 8, 4

(-2, 0) (6, 0)

$y = 2(x^2 - 4x - 12)$

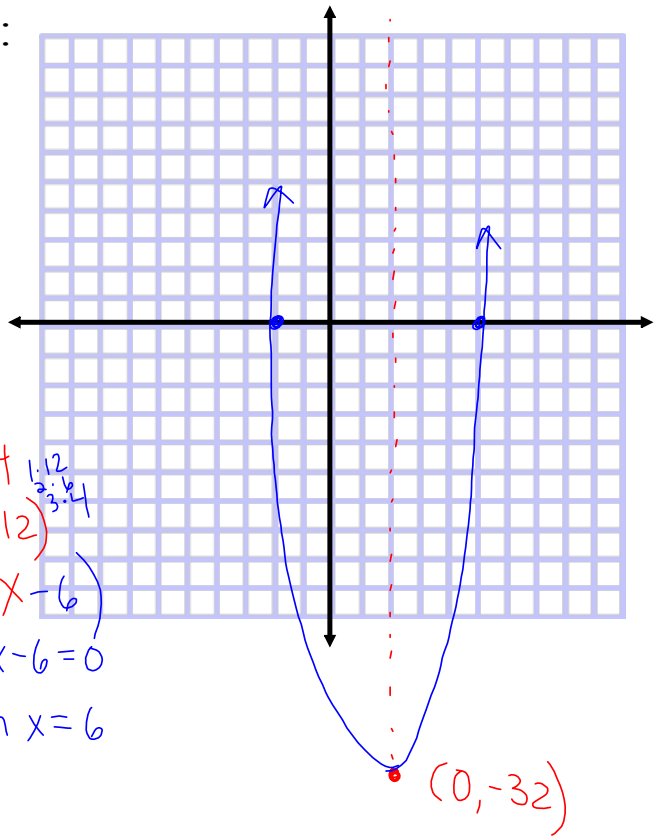
y-intercept:

$y = 2(x+2)(x-6)$

(0, -24)

$x+2=0 \quad x-6=0$

$x=-2 \text{ or } x=6$

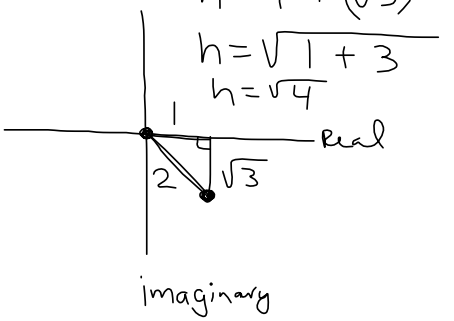


30) $|1 - i\sqrt{3}| = 2$

$h^2 = 1^2 + (\sqrt{3})^2$

$h = \sqrt{1+3}$

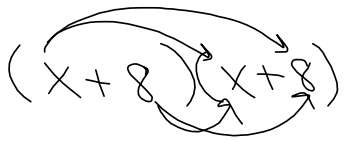
$h = \sqrt{4}$



36)

$x^2+64$

$(x+8i)(x-8i)$




$x^2+8x+8x+64$

$x^2+16x+64$

19) $C=0.55t^2+550$

$C=1430$

$1430=.55t^2+550$

$-550 \quad -550$

$880=.55t^2$

$\frac{880}{.55}=t^2$

$\sqrt{1600}=\sqrt{t^2}$

$t=\pm\sqrt{1600}$

$t=\pm 40$

$t=40$ months

Write and graph the quadratic equation for the given information.

(7, 0), (-3, 0), (0, -21)

$y = a(x-p)(x-q)$

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

$-21 = a(0-7)(0+3)$

$-21 = a(-7)(3)$

$-21a = -21$

$a = 1$

(2, -25) vertex:

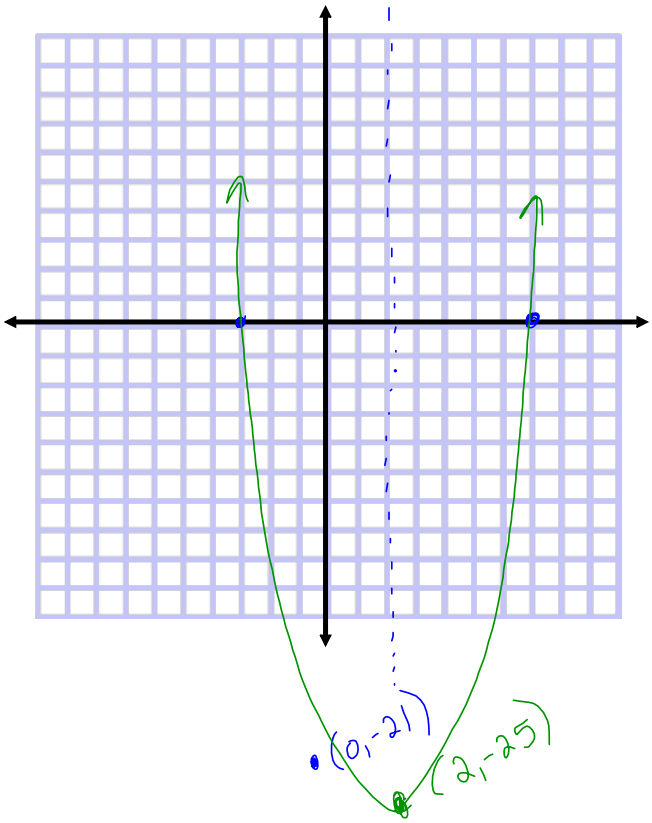
max/min:

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

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

$y = (-5)(5)$

$y = -25$



Write and graph the quadratic equation for the given information.

(-2, 0), (3, 0), (0, -3)

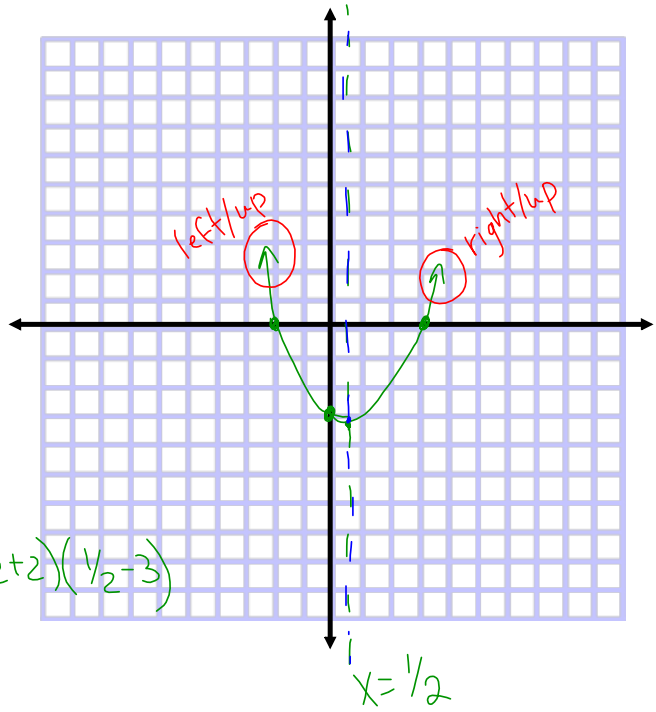
$y = a(x-p)(x-q)$

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

$-3 = a(0+2)(0-3)$

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

$\frac{-3}{-6} = \frac{-6a}{-6}$ $a = 1/2$




Write the end behavior and

interval of increase and decrease.

$y = 1/2(x+2)(x-3)$ $y = 1/2(1/2+2)(1/2-3)$

V: $(1/2, -3.125)$

decrease $(-\infty, 1/2)$

increase $(1/2, \infty)$

end behavior

$x \to -\infty$ $f(x) \to \infty$

$x \to \infty$ $f(x) \to \infty$

Write and graph the equation for the quadratic equation with the given zeros and a leading coefficient of 3. Zeros: x = -3, x = 4

$y = a(x-p)(x-q)$

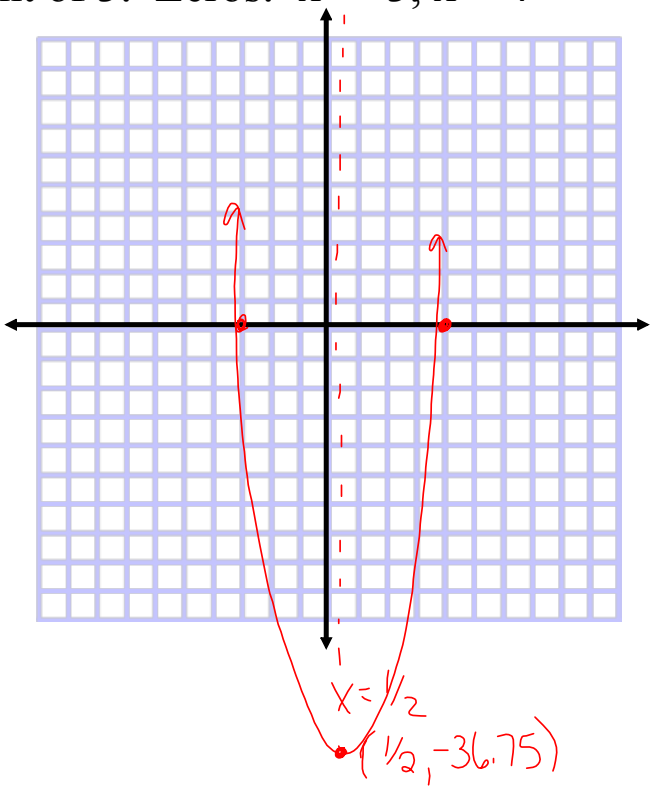
$y = 3(x+3)(x-4)$

$y = 3(1/2+3)(1/2-4)$

V: $(1/2, -36.75)$

domain: $(-\infty, \infty)$

range: $[-36.75, \infty)$

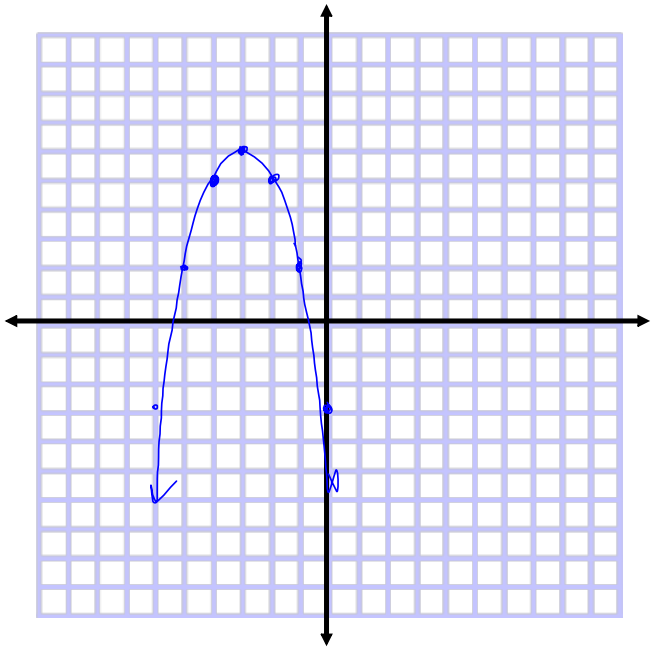


Write the quadratic equation for the given information.

| x | y |
|---|---|
| -4 | 5 |
| -3 | 6 |
| -2 | 5 |
| -1 | 2 |
| 0 | -3 |

vertex

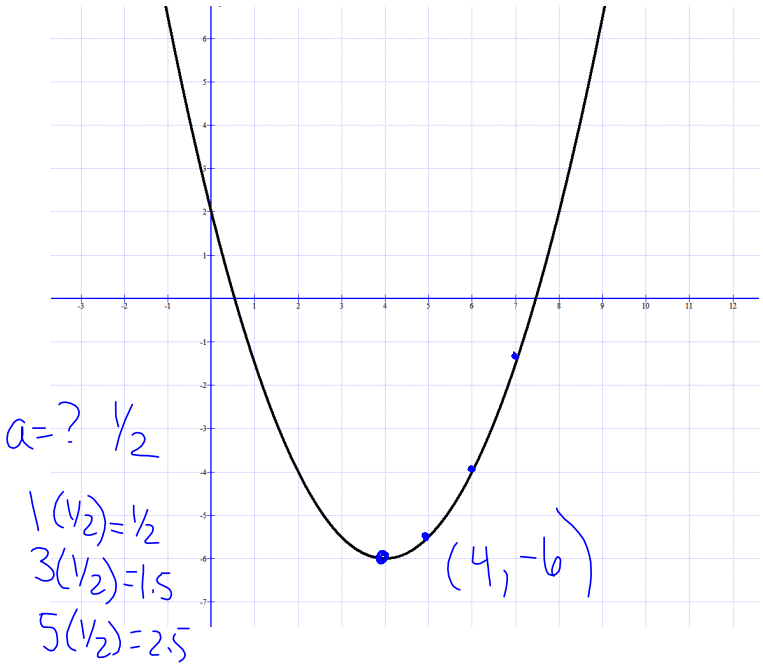
$a=-1$



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

$y = -(x+3)^2 + 6$

Write the quadratic equation for the given graph.




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

$y = \frac{1}{2}(x-4)^2 - 6$

# Test Next class period