Get out "Writing Quad Eqns Day 1 ws" to correct

Standard 3A Opportunity 1 today!

Writing Quad Eqns Day 2 due Monday :)

Correct - Writing Quad Eqns Day 1

Writing Quadratic Equations Day 1: Given a Vertex & a Point Name: Key Hr:____

Write an equation for a quadratic function given the following information. (in vertex form?)

1. Vertex: (2, 3) and a point (4, 5)

$5 = a(4-2)^2 + 3$

$5 = 4a + 3$

$2 = 4a \quad a = \frac{1}{2}$

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

2. Vertex: (-5, -1) and a point (-6, 2)

$2 = a(-6+5)^2 - 1$

$2 = a - 1$

$+1 \quad +1$

$3 = a$

$y = 3(x+5)^2 - 1$

3. Vertex: (2, -3) and y-intercept of -2 (0, -2)

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

$-2 = 4a - 3$

$\frac{1}{4} = \frac{4a}{4} \quad a = \frac{1}{4}$

$y = \frac{1}{4}(x-2)^2 - 3$

Write an equation for a quadratic function given the following information. Then sketch a graph. (in vertex form?)

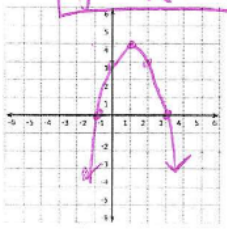
4. Vertex: (1, 4) and a point (2, 3)

$3 = a(2-1)^2 + 4$

$3 = a + 4 \quad a = -1$

-4

$y = -1(x-1)^2 + 4$



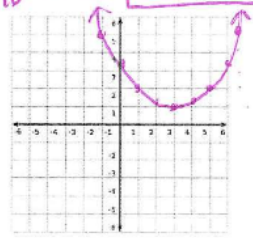
5. Vertex: (3, 1) and a point (-1, 5)

$5 = a(-1-3)^2 + 1$

$5 = 16a + 1$

$\frac{4}{16} = \frac{16a}{16} \quad a = \frac{1}{4}$

$y = \frac{1}{4}(x-3)^2 + 1$



6. Vertex: (1, 5) and a point (-1, -3)

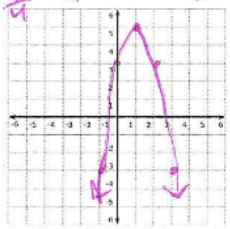
$-3 = a(-1-1)^2 + 5$

$-3 = 4a + 5$

$-5 \quad -5$

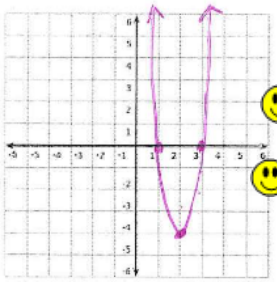
$\frac{-8}{4} = \frac{4a}{4} \quad a = -2$

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



7. Use the information provided to find the following:

Vertex: (2, -4) and x-intercept of 1 (1, 0)



A) The equation for the quadratic function.

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

$0 = a(1-2)^2 - 4$

$0 = a - 4$

$a = 4$

B) Sketch a graph.

C) State the domain and range

D: $(-\infty, \infty)$ R: $[-4, \infty)$

D) Determine if there is a max or min

min at -4

E) Find f(1)

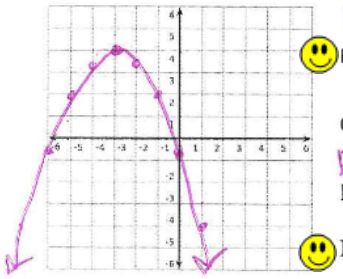
0

$f(1) = 4(1-2)^2 = 4$

$= 4(-1)^2 - 4 = 4(1) - 4 = 4 - 4 = 0$

8. Use the information provided to find the following:

Vertex: (-3, 4) and a point (1, -4)



A) The equation for the quadratic function.

$y = -\frac{1}{2}(x+3)^2 + 4$

$-4 = a(1+3)^2 + 4$

$-4 = 16a + 4$

$-4 \quad -4$

$\frac{-8}{16} = \frac{16a}{16} \quad a = -\frac{1}{2}$

B) Sketch a graph.

C) State the domain and range

D: $(-\infty, \infty)$ R: $(-\infty, 4]$

D) Determine if there is a max or min

max at 4

E) Find f(-5)

2

$f(-5) = -\frac{1}{2}(-5+3)^2 + 4$

$-\frac{1}{2}(4) + 4 = -2 + 4 = 2$

Quick review for Standard 3A

Write a quadratic equation with the given transformations

up 6, right 2, compress by a factor of 2/3

$f(x) = \frac{2}{3}(x-2)^2 + 6$

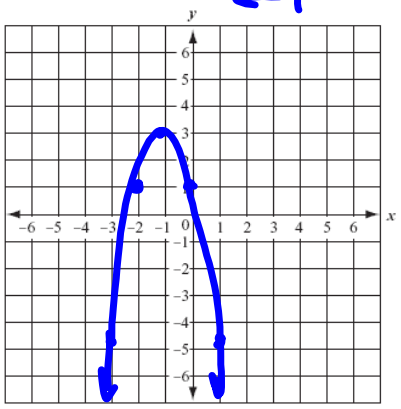
left 7, down 1, stretch by a factor of 2, reflect over x-axis

$y = -2(x+7)^2 - 1$

Describe the transformations done to the graph $f(x) = x^2$ and then graph

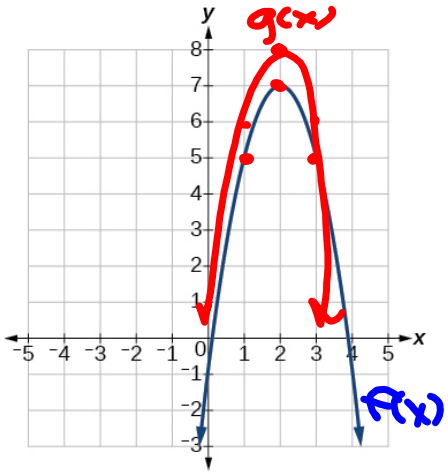
$$h(x) = -2(x + 1)^2 + 3$$

r.o.x.a. stretch 1 ↑3

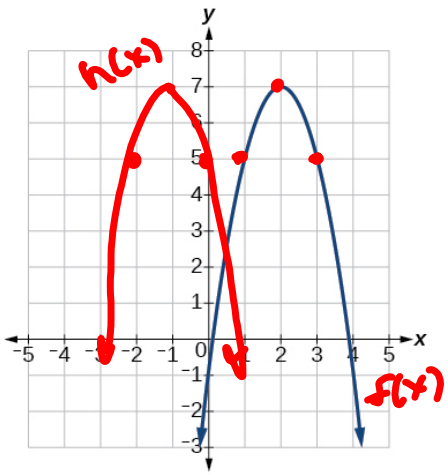


Given the graph f(x) below, sketch the graphs g(x) and h(x).

g(x) = f(x) + 1



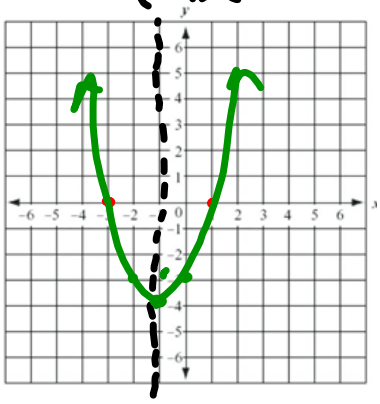
h(x) = f(x + 3)



Graph. Identify the vertex, x-intercept(s) and y-intercept

$f(x) = (x - 1)(x + 3)$

$(-1)(3)$



$\frac{b+c}{2}$

$x-1=0$ $x+3=0$

$+1 \quad +1$ $-3 \quad -3$

$y=1$ $x=-3$

vertex: $\frac{1+(-3)}{2} = -\frac{2}{2} = -1$

$(-1, -4)$

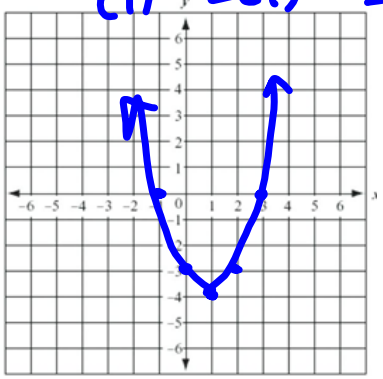
x-int: $(1, 0)$, $(-3, 0)$

y-int: $(0, -3)$

Graph. Identify the vertex, x-intercept(s) and y-intercept

$f(x) = x^2 - 2x - 3$ $-3, -3$ $(x+1)(x-3)=0$ $x+1=0$ $x-3=0$

$(1)^2-2(1)-3$



vertex: $\frac{-(-2)}{2(1)} = \frac{2}{2} = 1$

$(1, -4)$

x-int: $(-1, 0)$ $(3, 0)$

y-int: $(0, -3)$

3A Opportunity 1

NO PHONES

When finished

Double check answers and graphs!
Turn quiz over on desk
Finish any missing hw
Read a book