Name _____ Hr _____

Standard 3A. Graphing Quadratics and Transformations – Review $y=a(x-h)^2+k$

1. Write a quadratic equation with the given transformations to the parent function $f(x) = x^2$. Down 4, a vertical stretch of 3, reflected over the x axis, and left 1.

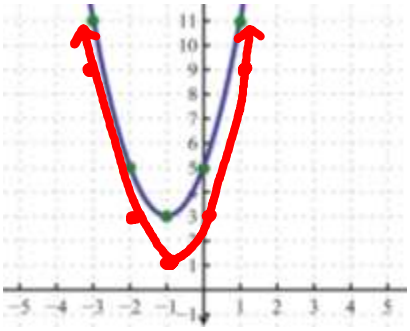
$y=-3(x+1)^2-4$

2. Write a quadratic equation with the given transformations to the parent function $f(x) = x^2$. Right 3, a vertical compression/shrink by ¼, and up 5.

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

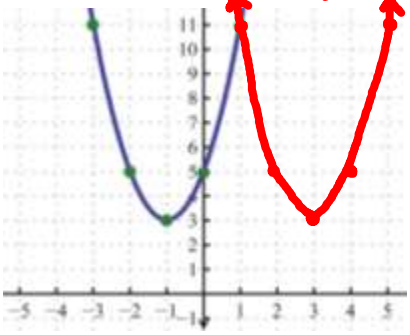
3. Given the graph f(x) below, sketch the graph h(x).

$h(x) = f(x) - 2$ down 2



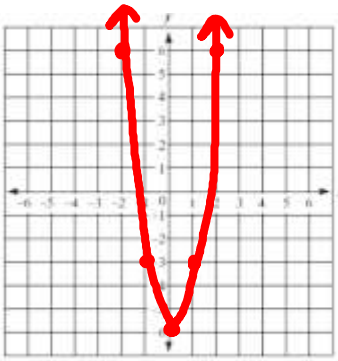
4. Given the graph f(x) below, sketch the graph g(x).

$g(x) = f(x - 4)$ right 4

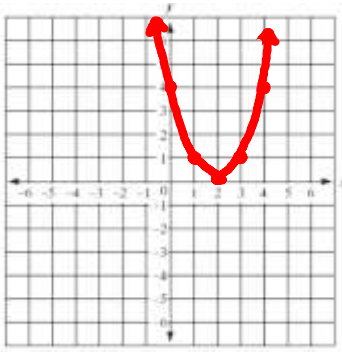


Describe the transformations to the graph of $f(x) = x^2$ on the space provided, then graph the function.

5. $f(x) = 3x^2 - 6$ stretch of 3, down 6



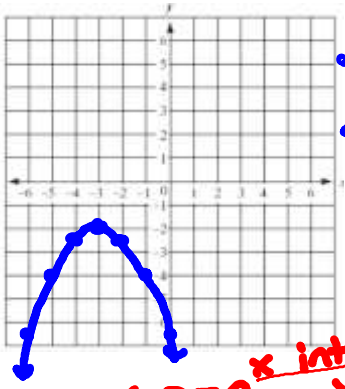
6. $g(x) = (x - 2)^2$ right 2



out 1 1(3) 2 4(3)

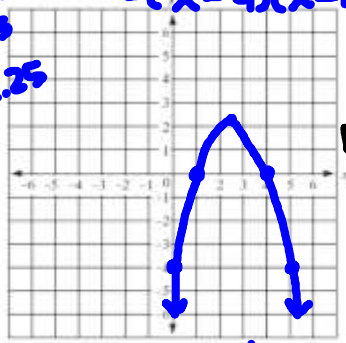
7. $h(x) = -\frac{1}{2}(x + 3)^2 - 2$

- reflect over the x axis
- shrink of ½
- left 3
- down 2



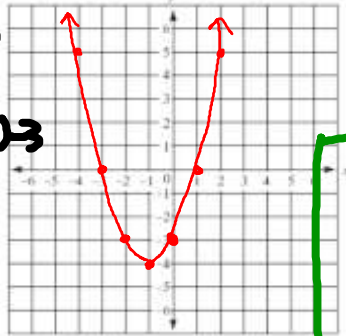
Graph the functions. Then identify a) the vertex, b) x intercepts, and c) y intercept.

8. $f(x) = -x^2 + 5x - 4$ $-(x^2-5x+4)$ $-(x-4)(x-1)$ $h=\frac{-5}{2(-1)}$ $h=2.5$ $k=2.25$



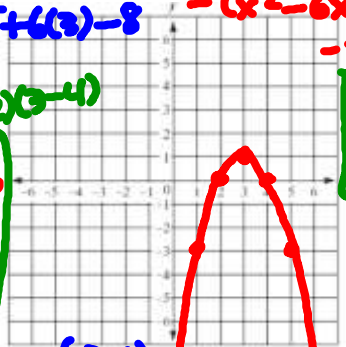
a) (2.5, 2.25)
b) (4,0) and (1,0)
c) (0,−4) x=0
Sketch the graph

9. $f(x) = (x - 1)(x + 3)$ x^2+2x-3 $h=\frac{-2}{2(1)}$ $h=-1$ $k=(-1)^2+2(-1)-3$ $k=-4$



a) (−1,−4)
b) (1,0) and (−3,0)
c) (0,−3)
Sketch the graph

10. $f(x) = -(x - 2)(x - 4)$ $-(x^2-6x+8)$ $-x^2+6x-8$ $h=\frac{-6}{2(-1)}$ $h=3$ $k=-(3)^2+6(3)-8$ $k=1$ $k=-(3-2)(3-4)$



you can also find "h" by avg. your x int. $h=\frac{(2+4)}{2}$ $h=3$

a) (3,1)
b) (2,0)(4,0)
c) (0,−8)
Sketch the graph

y int: x=0 and in standard form it's c y=−(0−2)(0−4) y=−8