

More Graphing (Stretches & Shrinks, Reflections & Vertical Shifts)



key

PART I: Describe the transformations (in the correct order) being performed on the quadratic parent function.

1. $y = 10x^2 - 25$

vertical stretch
b.a.f.o 10
Down 25

2. $y = -\frac{1}{6}x + 4$

vertical shrink b.a.f.o $\frac{1}{6}$
reflection over x-axis
up 4

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

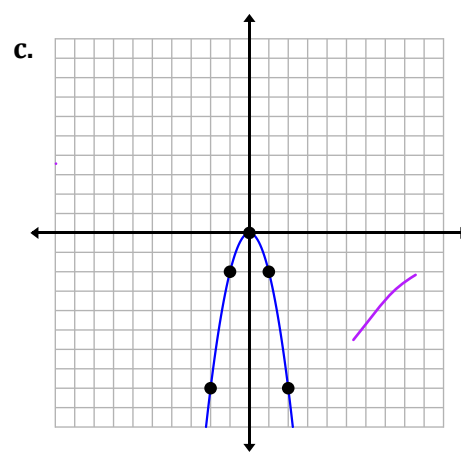
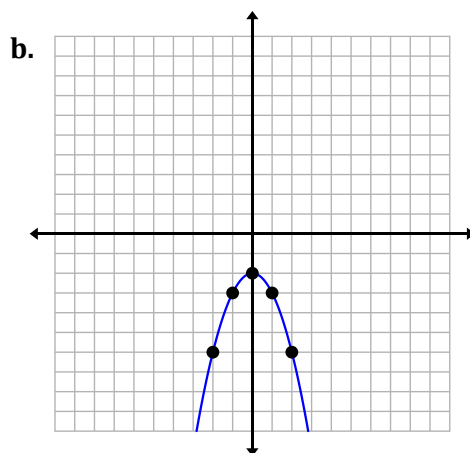
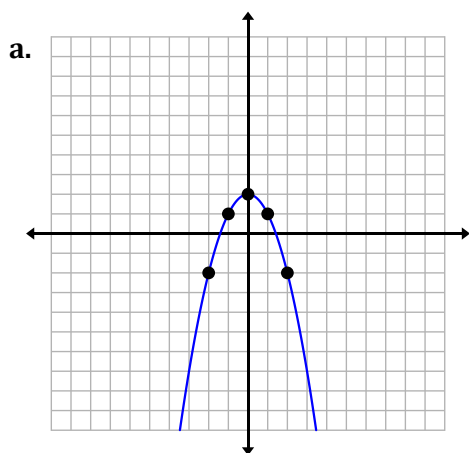
reflect over y-axis
up one

PART II: Match the transformed function with its graph.

4. $y = -x^2 - 2$ B

5. $y = -x^2 + 2$ A

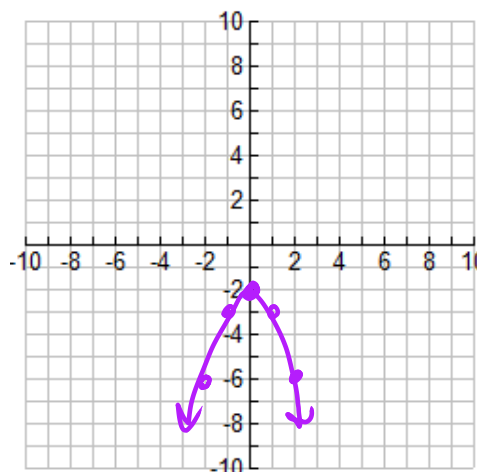
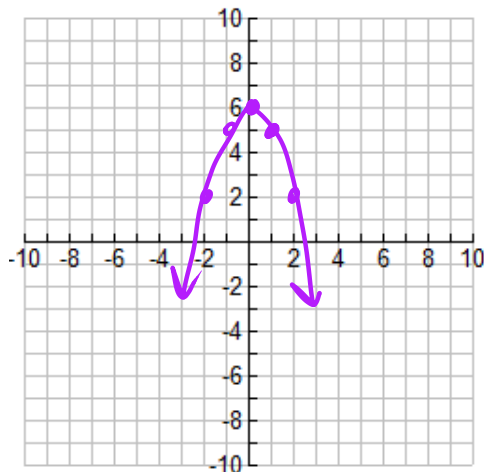
6. $y = -2x^2$ C



PART III: Describe the transformations being performed on the quadratic parent function. Then, graph the function with at least five accurate points.

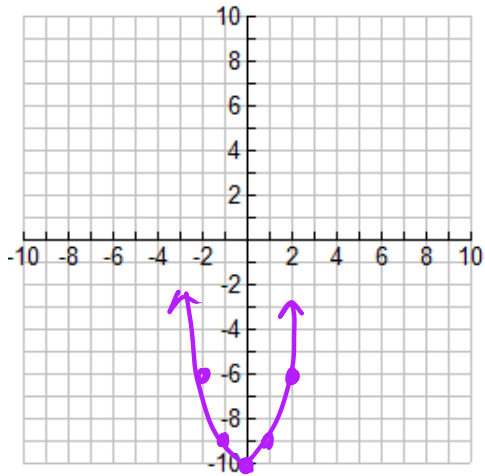
7. $y = -x^2 + 6$
 ① reflect x-axis
 ② up 6

8. $y = x^2 - 2$
 down 2



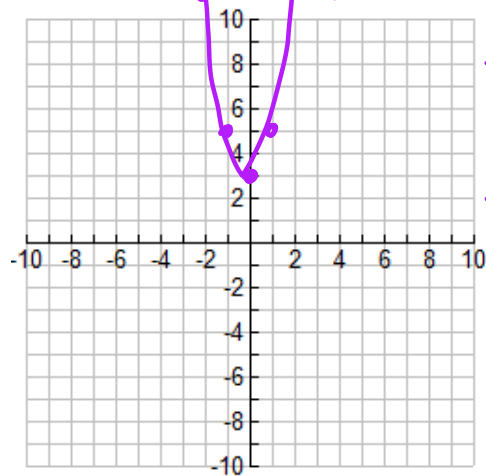
9. $y = (-x)^2 - 10$

reflect over y-axis
down 10



10. $y = 2x^2 + 3$

vertical stretch
b.a.f. 2
up 3



x	y
-2	11
-1	5
0	3
1	5
2	11

PART IV: Write an equation of a *quadratic function* that has been transformed accordingly.

11. Shifted down 15

$$y = x^2 - 15$$

12. Reflected over the x-axis, then vertically stretched by a factor of 5

$$y = -5x^2$$

13. Vertically shrunk by a factor of 1/3, then shifted up 14

$$y = \frac{1}{3}x^2 + 14$$

14. Reflected over the y-axis, vertically shrunk by a factor of 1/2, then shifted down 10

$$y = \frac{1}{2}(-x)^2 - 10$$