

Lesson 1.8 – Transformations Review

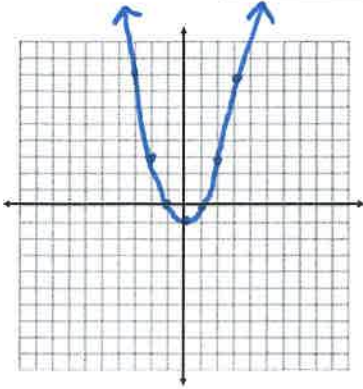
Name \_\_\_\_\_ Date \_\_\_\_\_

Give the name of the parent function and describe the transformation represented. Graph the function by hand, use Desmos to check

1.  $g(x) = x^2 - 1$

Parent: Quadratic

Transformations: translation down 1

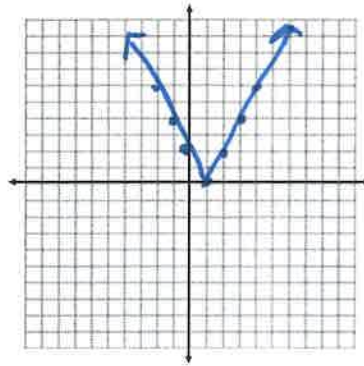


vertex (0, -1)

2.  $f(x) = 2|x - 1|$

Parent: Absolute Value

Transformations: trans. 1 right, Dilation by Factor 2

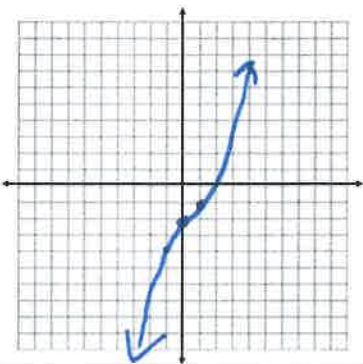


vertex (1, 0)

3.  $h(x) = -x^3 - 2$

Parent: cubic

Transformations: trans. down 2, reflect over x

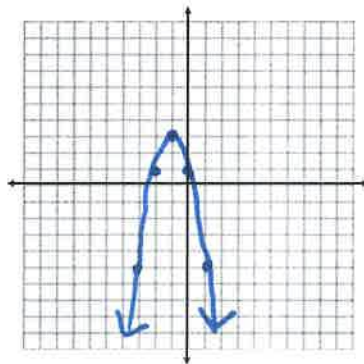


key point (0, -2)

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

Parent: Quadratic

Transformations: Trans left 1, down 3 dilation by factor 2 and reflect over x

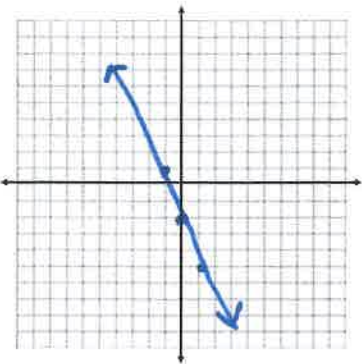


vertex (-1, 3)

5.  $g(x) = -3x - 2$

Parent: linear

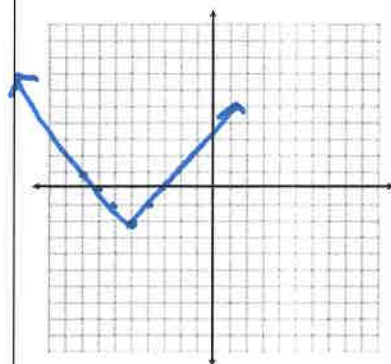
Transformations: trans down 2, reflect over x



6.  $f(x) = |x + 5| - 2$

Parent: Absolute Value

Transformations: trans 5 right, down 2

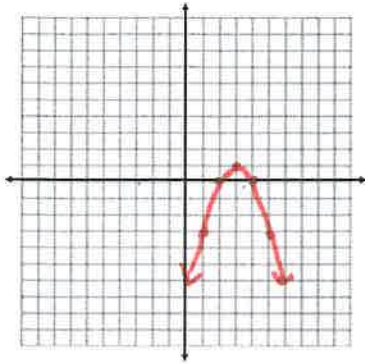


vertex (-5, -2)

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

Parent: Quadratic

Transformations: trans 3 right, 1 up, reflect over x

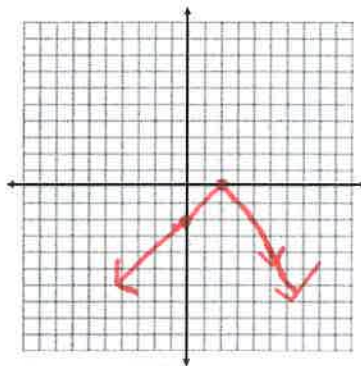


vertex = (3, 1)

8.  $h(x) = -|x-2|$

Parent: Absolute Value

Transformations: trans right 2, reflect over x



Given the parent function and a description of the transformation, write the equation of the transformed function,  $f(x)$ .

11. Absolute Value — vertical shift up 5, horizontal shift right 3.  $f(x) = |x-3| + 5$

12. Linear — vertical stretch/compression by  $\frac{2}{5}$   $f(x) = \frac{2}{5}x$

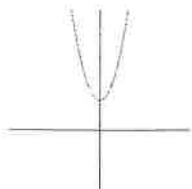
13. Square Root — flipped over the x axis, vertical shift down 2  $f(x) = -\sqrt{x} - 2$

14. Cubic — vertical stretch by 8  $f(x) = 8x^3$

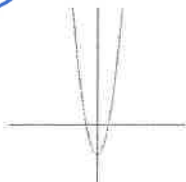
15. Quadratic — vertical stretch by 5, horizontal shift left 8.  $f(x) = 5(x+8)^2$

16. Which graph best represents the function  $f(x) = 2x^2 - 2$ ? → translate down 2

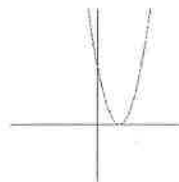
a.



b.



c.



d.

