

Precalculus – Parent Graphs & Transformations

For problem 1- 6, please give the name and equation of the parent function and describe the transformation. You may use your graphing calculator to compare & sketch.

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

Parent: _____

Transformation(s): _____

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

Parent: _____

Transformation(s): _____

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

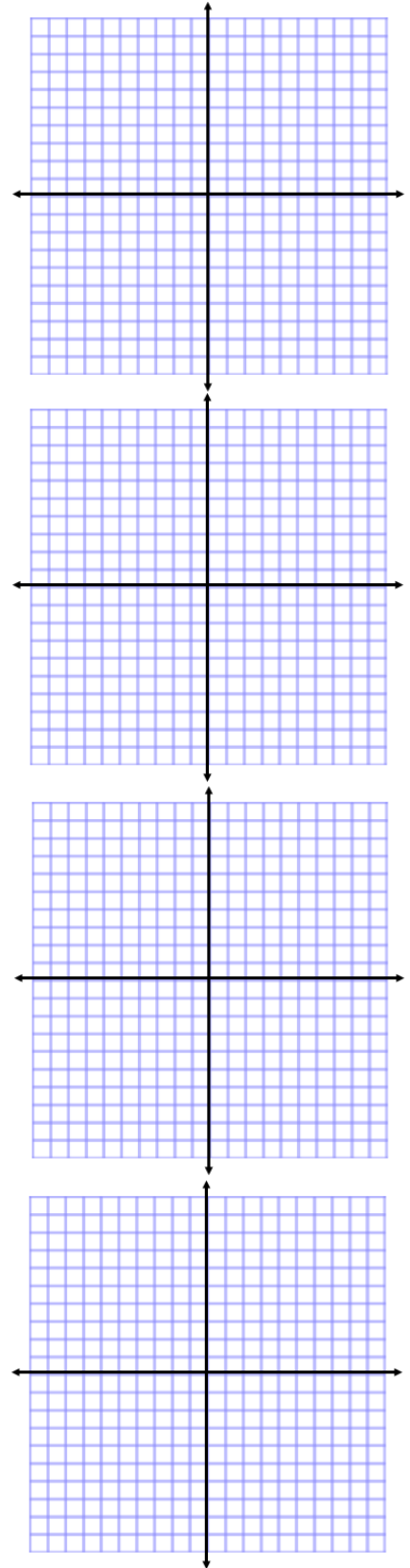
Parent: _____

Transformation(s): _____

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

Parent: _____

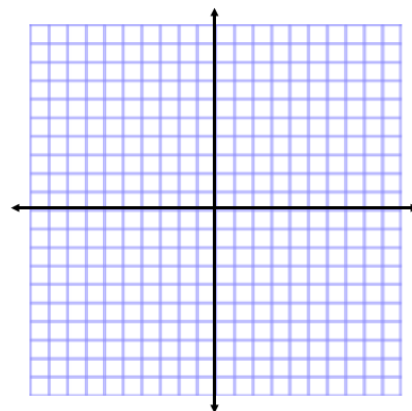
Transformation(s): _____



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

Parent: _____

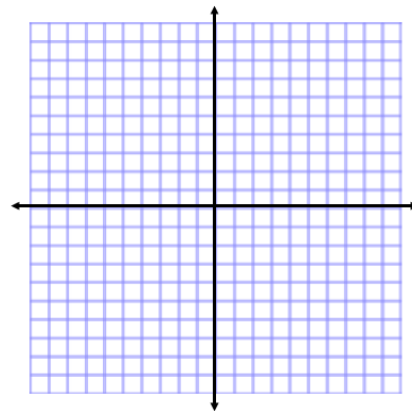
Transformation(s): _____



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

Parent: _____

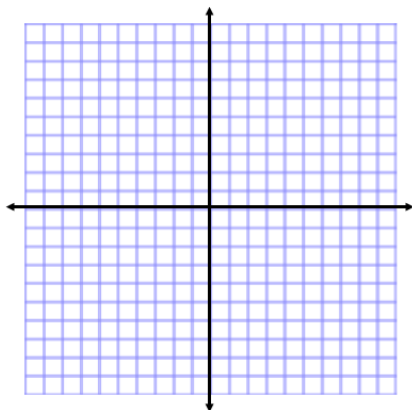
Transformation(s): _____



7. $g(x) = \ln(x - 2) + 4$

Parent: _____

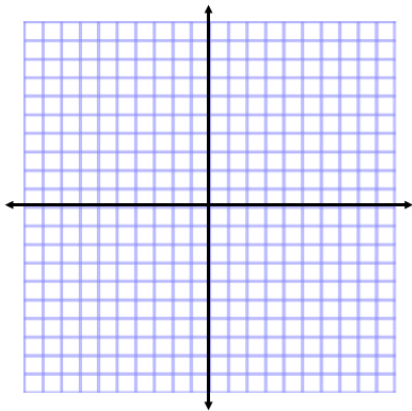
Transformation(s): _____



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

Parent: _____

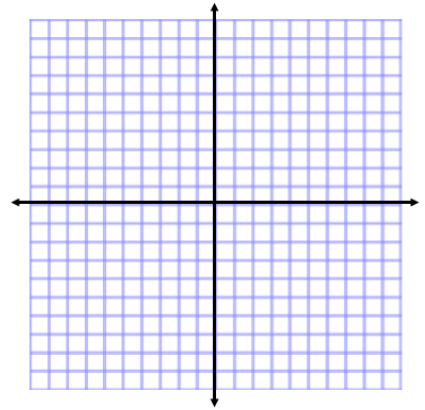
Transformation(s): _____



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

Parent: _____

Transformation(s): _____



For problems 10 – 15, given the parent function and a description of the transformation, write the equation of the transformed function, $f(x)$.

10. Absolute value—vertical shift up 5, horizontal shift right 3 _____

11. Linear—vertical stretch/compression by $\frac{2}{5}$ _____

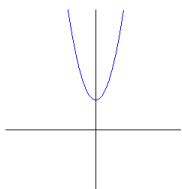
12. Root —flipped over the x axis, vertical shift down 2 _____

13. Exponential—vertical stretch by 8 _____

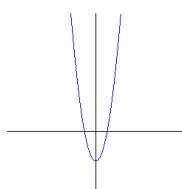
14. Quadratic—vertical stretch by 5, horizontal shift left 8 _____

15. Which graph best represents the function $f(x) = 2x^2 - 2$?

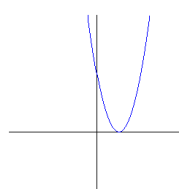
a.



b.



c.



d.

