Alg 2 2.1 Homework

Question 1.

Identify the transformations of the graph of $f(x) = x^3$ that produce the graph of the given function $g(x)$.

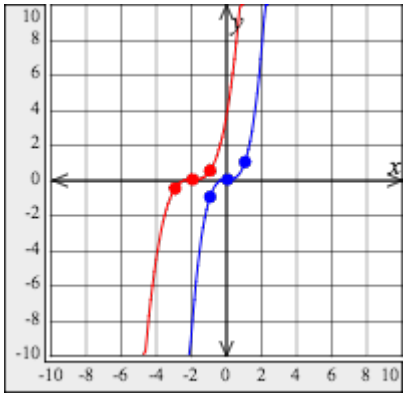
$$g(x) = -\frac{1}{2}(x-2)^3$$

The transformations of the graph of $f(x)$ that produce the graph of $g(x)$ are:

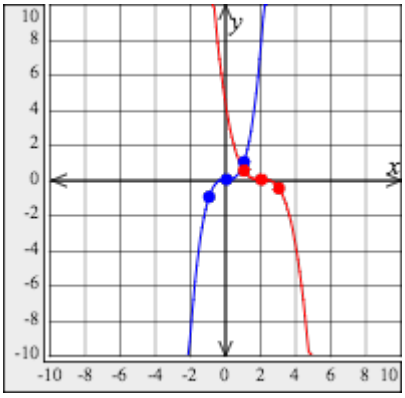
- **a** (select) **compression by a factor of** $\frac{1}{2}$
- **a reflection across the** (select)
- **a translation of 2 units to the** (select)

Select the graph which shows the graph of $g(x)$ on the same coordinate plane as the graph of $f(x)$ by applying the transformations to the reference points $(-1, -1)$, $(0, 0)$, and $(1, 1)$.

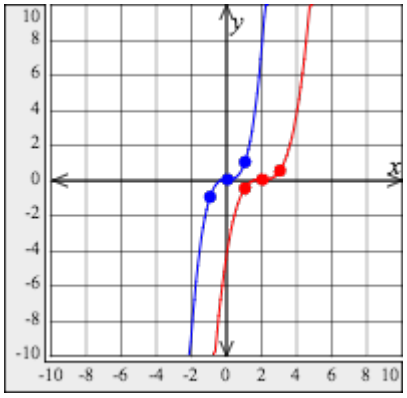
A.



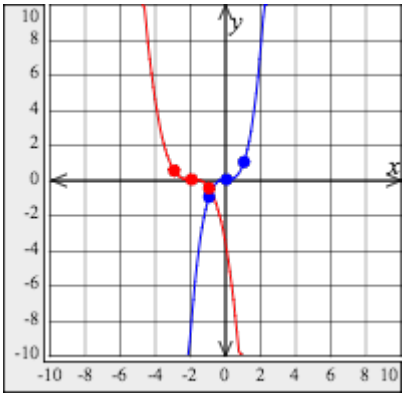
B.



C.



D.

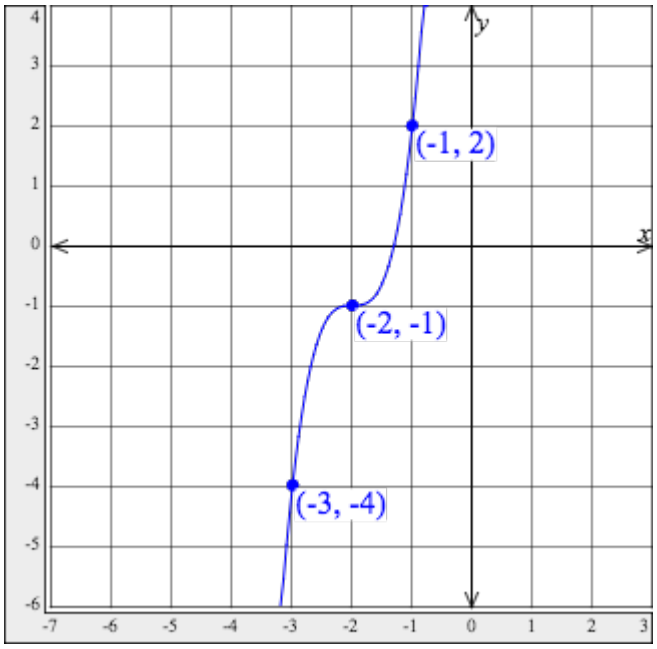


Alg 2 2.1 Homework

Question 2.

A general equation for a cubic function $g(x)$ is given along with the function's graph. Complete the specific equation by identifying the values of the parameters from the reference points shown on the graph.

$g(x) = a(x - h)^3 + k$



$g(x) = \square\,(x + \square)^3 - \square$

Alg 2 2.1 Homework

Question 3.

Describe how the graph of $g(x)$ is related to the graph of $f(x) = x^3$.

$g(x) = -5x^3$

The graph of $g(x)$ is a vertical stretch of the graph of $f(x)$ by a factor of [ ] **as well as a reflection of the graph of $f(x)$ across the** (select) **.**

Alg 2 2.1 Homework

Question 4.

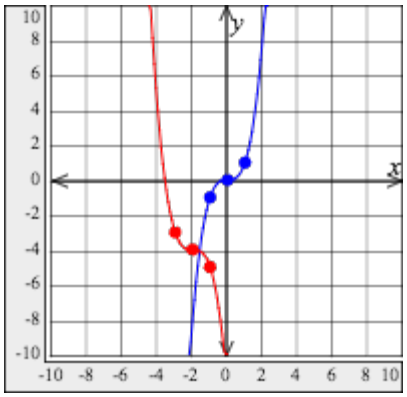
Identify the transformations of the graph of $f(x) = x^3$ that produce the graph of the given function $g(x)$.

$g(x) = (x + 2)^3 + 4$

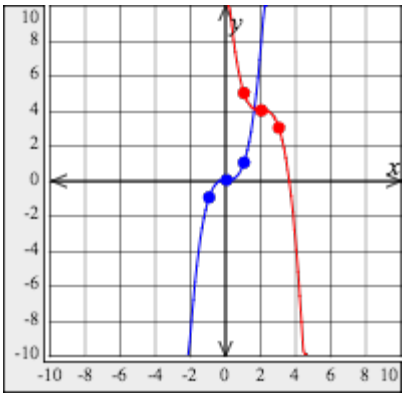
The transformations of the graph of $f(x)$ that produce the graph of $g(x)$ are a translation of 2 units to the (select) **and a translation of 4 units** (select) **.**

Select the graph which shows $g(x)$ on the same coordinate plane as the graph of $f(x)$ by applying the transformations to the reference points $(-1, -1)$, $(0, 0)$, and $(1, 1)$.

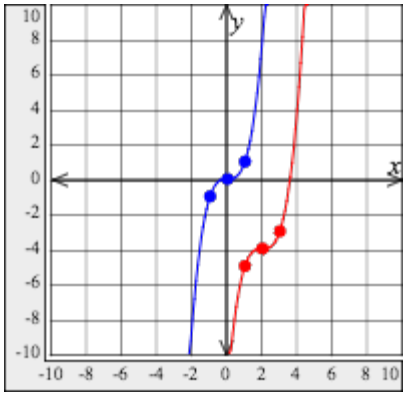
A.



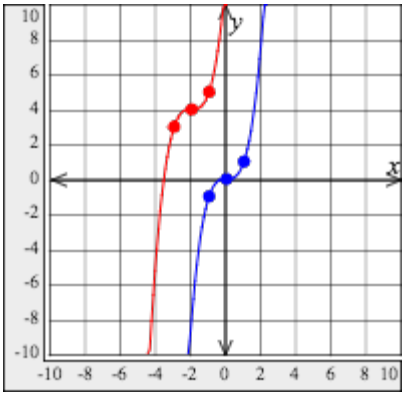
B.



C.



D.

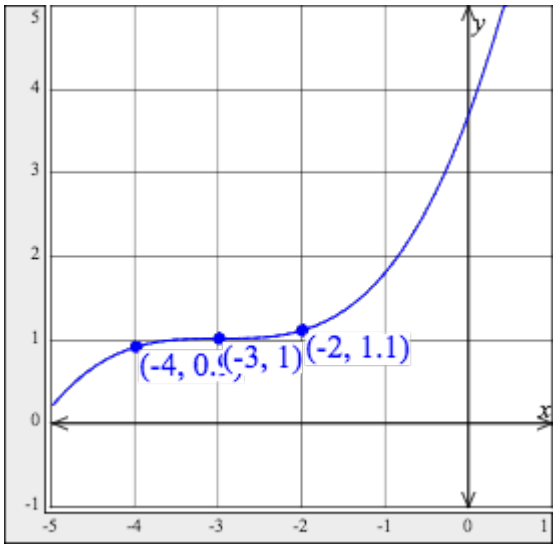


Alg 2 2.1 Homework

Question 5.

A general equation for a cubic function $g(x)$ is given along with the function's graph. Identify the values of the parameters from the reference points shown on the graph. Drag and drop the correct numbers into the boxes to complete the equation of the function.

$$g(x) = a(x - h)^3 + k$$



$$g(x) = \square\left(x - \square\right)^3 + \square$$

−3	1	−0.1	−1	3	0.1
