

Assignment: Transformation

Date _____ Period _____

Describe the transformations necessary to transform the graph of $f(x)$ into that of $g(x)$.

1) $f(x) = \sqrt{x}$
 $g(x) = -\sqrt{-x}$

2) $f(x) = |x|$
 $g(x) = -|2x|$

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

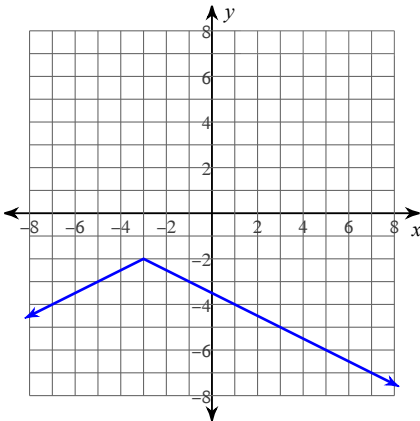
4) $f(x) = \sqrt{x}$
 $g(x) = -\sqrt{2x}$

5) $f(x) = \sqrt{x}$
 $g(x) = -\sqrt{\frac{1}{2}x} + 1$

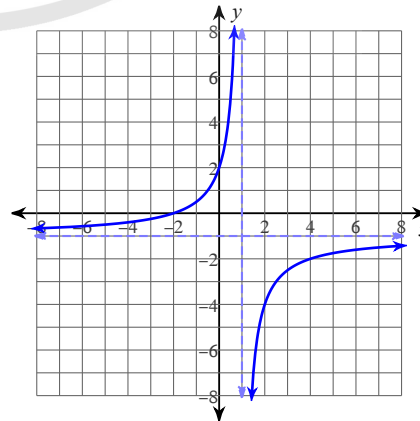
6) $f(x) = x^2$
 $g(x) = -\frac{1}{3}x^2$

Identify the parent function $f(x)$ and write an equation for the function given.

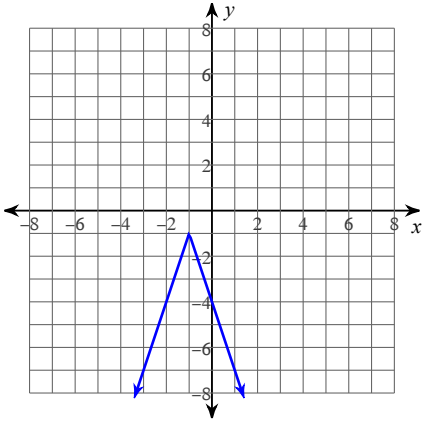
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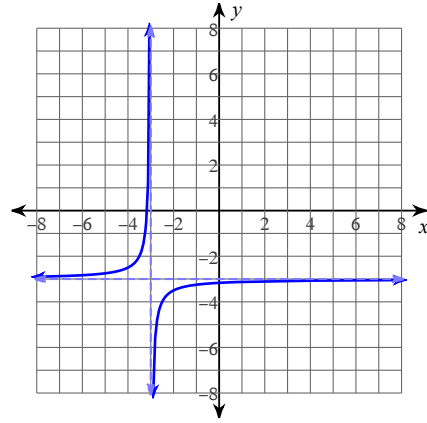
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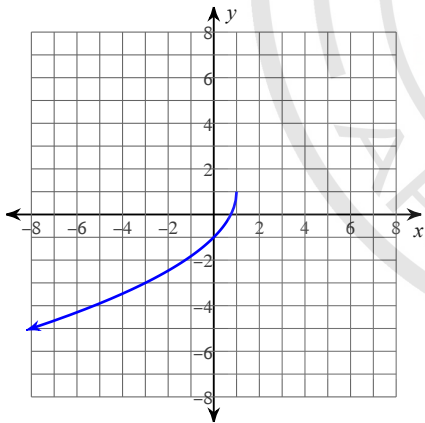
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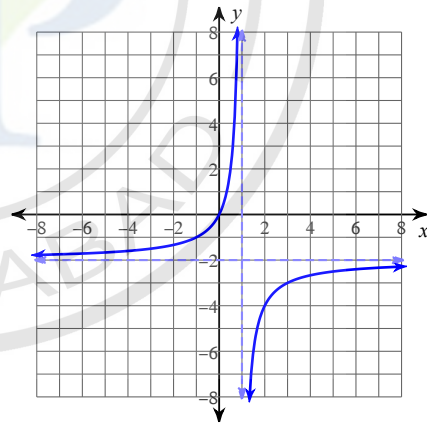
10)



11)



12)



Answers to Assignment: Transformation (ID: 1)

- 1) reflect across the y-axis
reflect across the x-axis
- 2) compress horizontally by a factor of 2
reflect across the x-axis
- 3) reflect across the x-axis
translate down 2 units
- 4) compress horizontally by a factor of 2
reflect across the x-axis
- 5) expand horizontally by a factor of 2
reflect across the x-axis
translate up 1 unit
- 6) compress vertically by a factor of 3
reflect across the x-axis
- 7) Parent: $f(x) = |x|$
 $g(x) = -\frac{1}{2} \cdot |x + 3| - 2$
- 8) Parent: $f(x) = \frac{1}{x}$
 $g(x) = -\frac{3}{x - 1} - 1$
- 9) Parent: $f(x) = |x|$
 $g(x) = -|3(x + 1)| - 1$
- 10) Parent: $f(x) = \frac{1}{x}$
 $g(x) = -\frac{1}{2(x + 3)} - 3$
- 11) Parent: $f(x) = \sqrt{x}$
 $g(x) = -2\sqrt{-(x - 1)} + 1$
- 12) Parent: $f(x) = \frac{1}{x}$
 $g(x) = -\frac{2}{x - 1} - 2$

