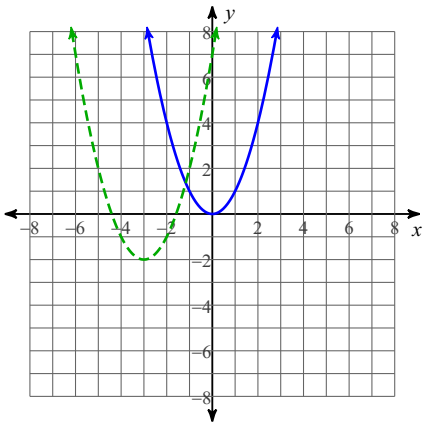
Precalculus Name_____

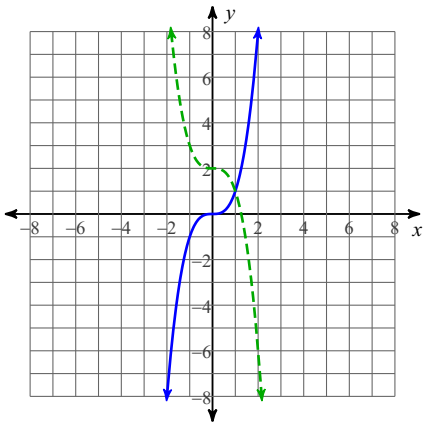
Unit 1 Practice Test

Write $g(x)$ (dashed line) in terms of $f(x)$ (solid line).

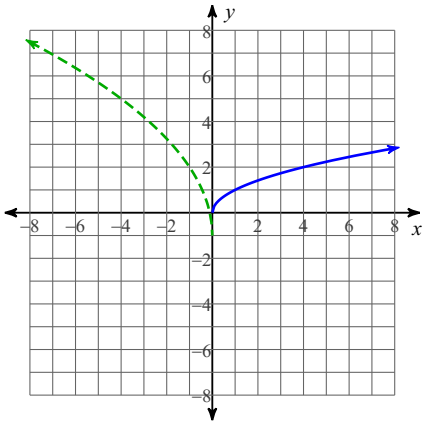
1)



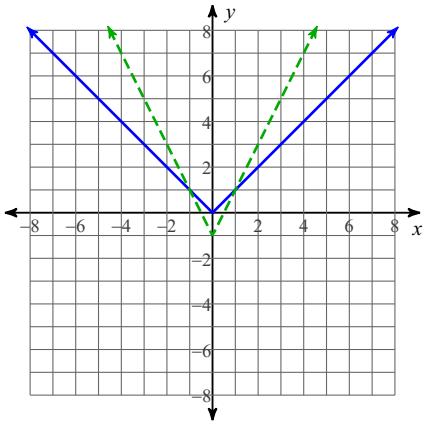
2)



3)



4)



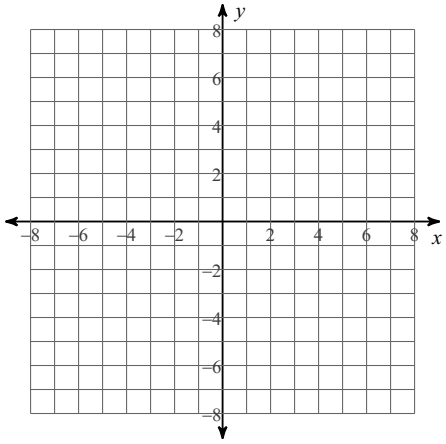
Transform the given function $f(x)$ as described and write the resulting function as an equation.

5) $f(x) = x^2$
expand vertically by a factor of 3
reflect across the x-axis
translate up 5

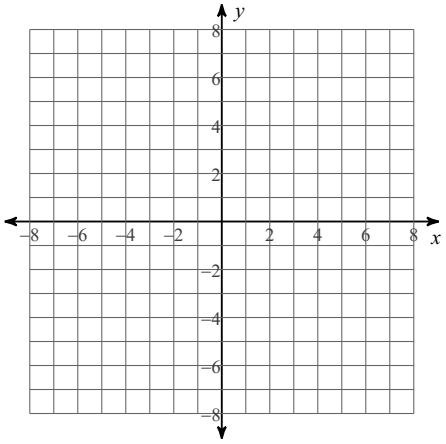
6) $f(x) = |x|$
reflect across the x-axis
translate up 2 units
translate right 7 units

Sketch the graph of each function.

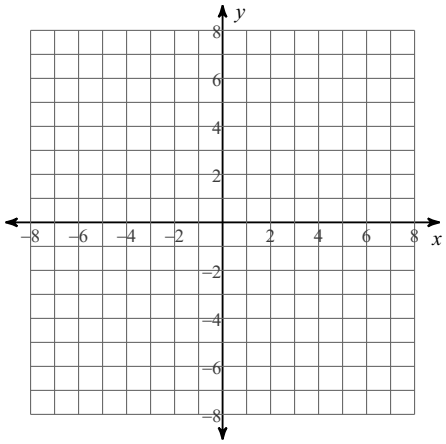
7) $g(x) = (x+2)^2 + 3$



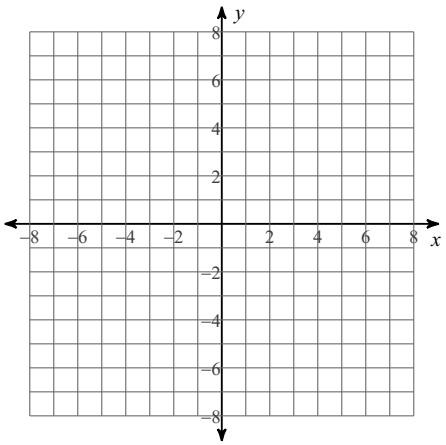
8) $g(x) = -x^3 - 3$



9) $g(x) = -\sqrt{x+3}$



10) $g(x) = -\left|\frac{1}{2}x\right|$

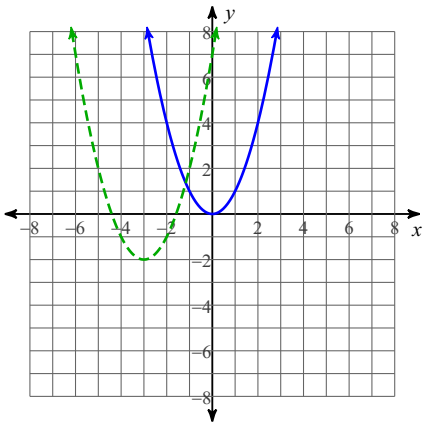


Precalculus Name_____

Unit 1 Practice Test

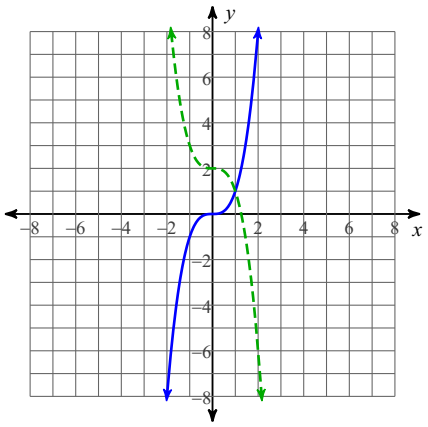
Write $g(x)$ (dashed line) in terms of $f(x)$ (solid line).

1)



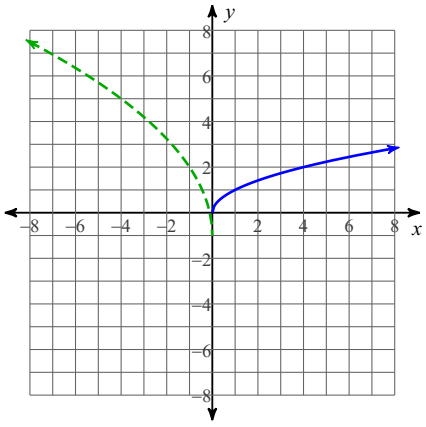
$g(x) = f(x + 3) - 2$

2)



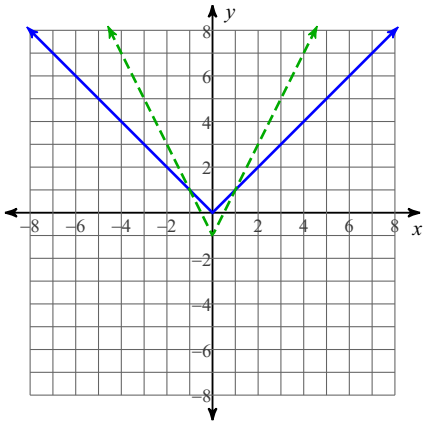
$g(x) = -f(x) + 2$

3)



$g(x) = 3f(-x) - 1$

4)



$g(x) = 2f(x) - 1$

Transform the given function $f(x)$ as described and write the resulting function as an equation.

5) $f(x) = x^2$
expand vertically by a factor of 3
reflect across the x-axis
translate up 5

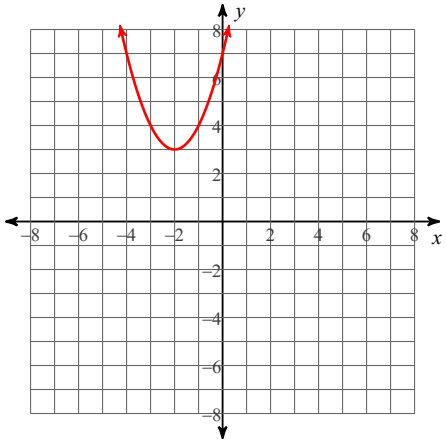
$g(x) = -3x^2 + 5$

6) $f(x) = |x|$
reflect across the x-axis
translate up 2 units
translate right 7 units

$g(x) = -|x - 7| + 2$

Sketch the graph of each function.

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



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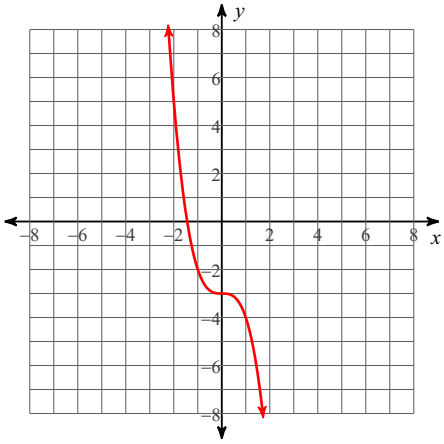
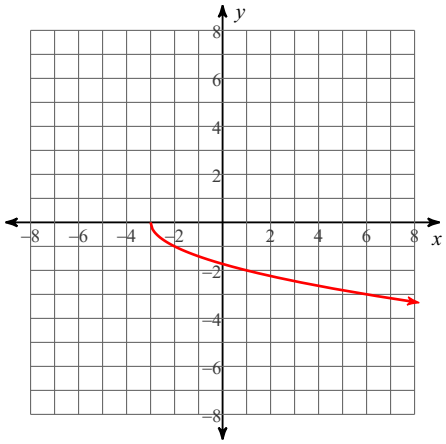


9) $g(x) = -\sqrt{x+3}$



10) $g(x) = -\left|\frac{1}{2}x\right|$