

Find formulas for  $f(g(x))$  and  $g(f(x))$ . Give the domain of each.

$$f(x) = 2 - 2x^2$$

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

Find a formulas for  $f^{-1}(x)$ . Give the domain.

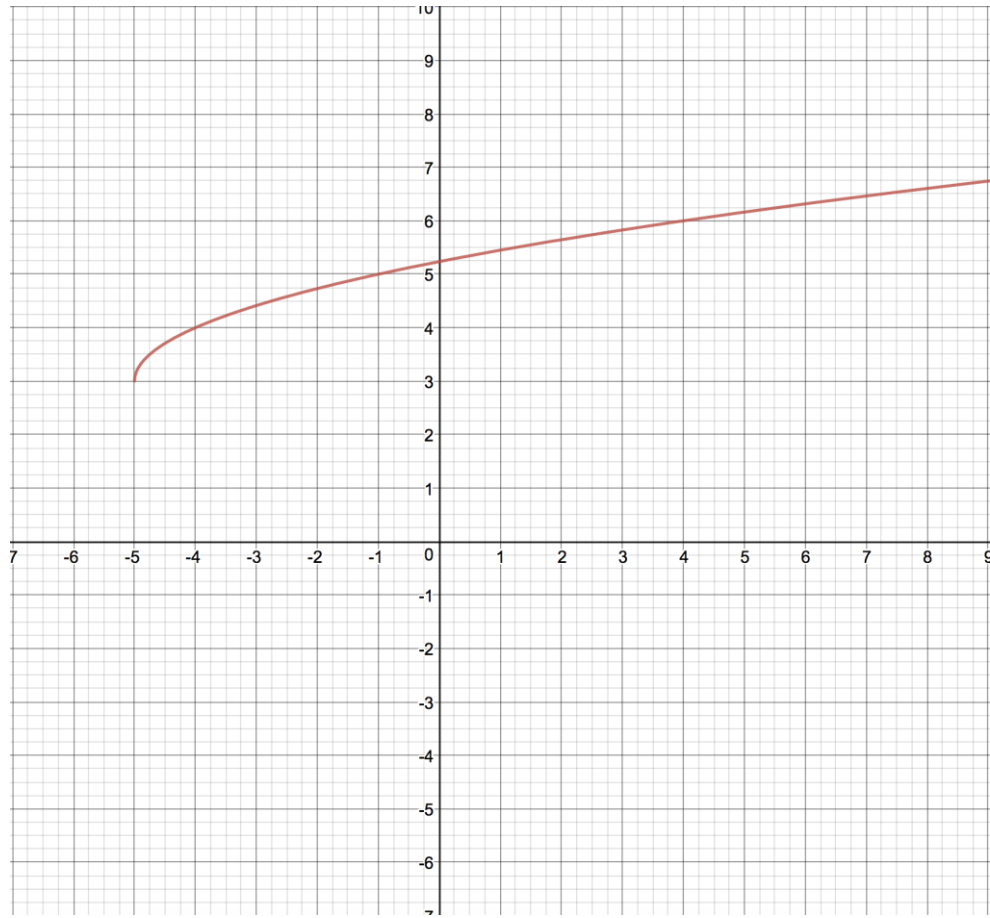
$$f(x) = \sqrt{3 - x}$$

Confirm that  $f(x)$  and  $g(x)$  are inverses.

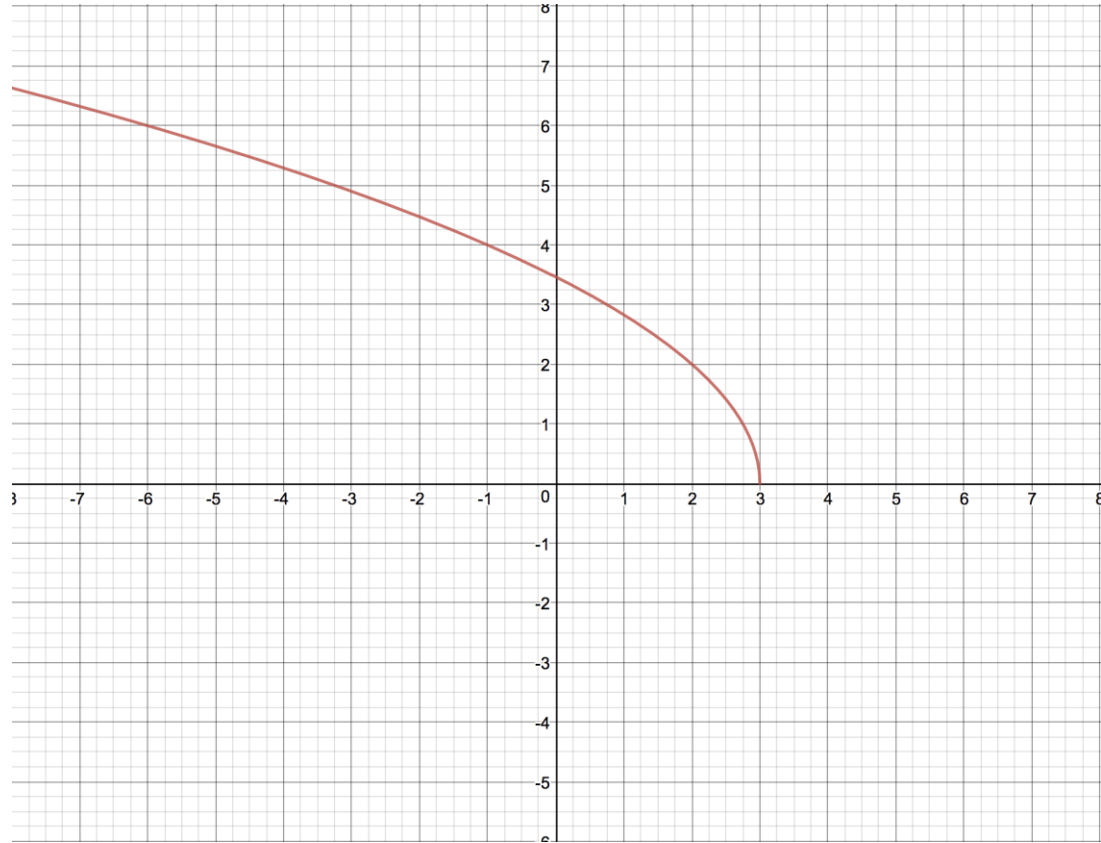
$$f(x) = \frac{x^5 + 2}{7}$$

$$g(x) = \sqrt[5]{7x - 2}$$

# Draw the functions inverse

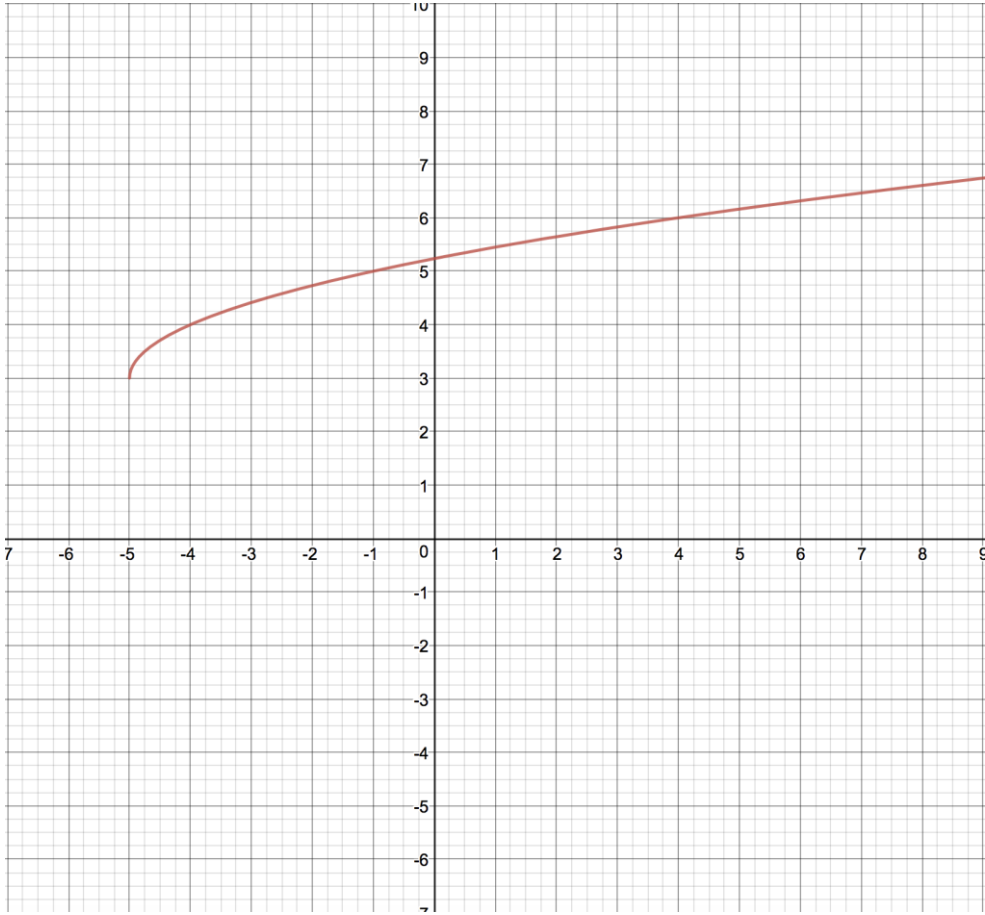


# Draw the functions inverse

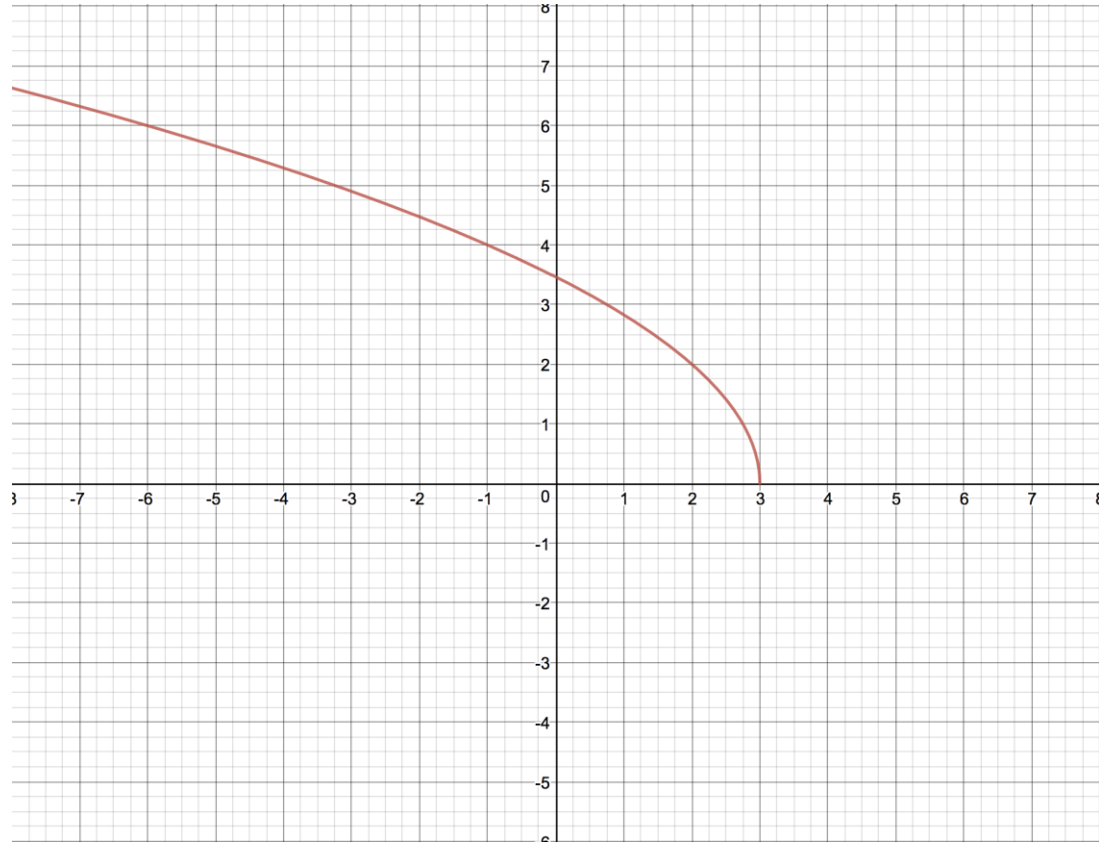


## Vertical Stretch by factor of 2

# Write a formula for each function



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Vertical Stretch by factor of 2

Write an equation whose graph is g.

$$f(x) = x^3$$

then a vertical compression by a factor of  $\frac{1}{3}$ , then a shift left 5, and a shift up by 2

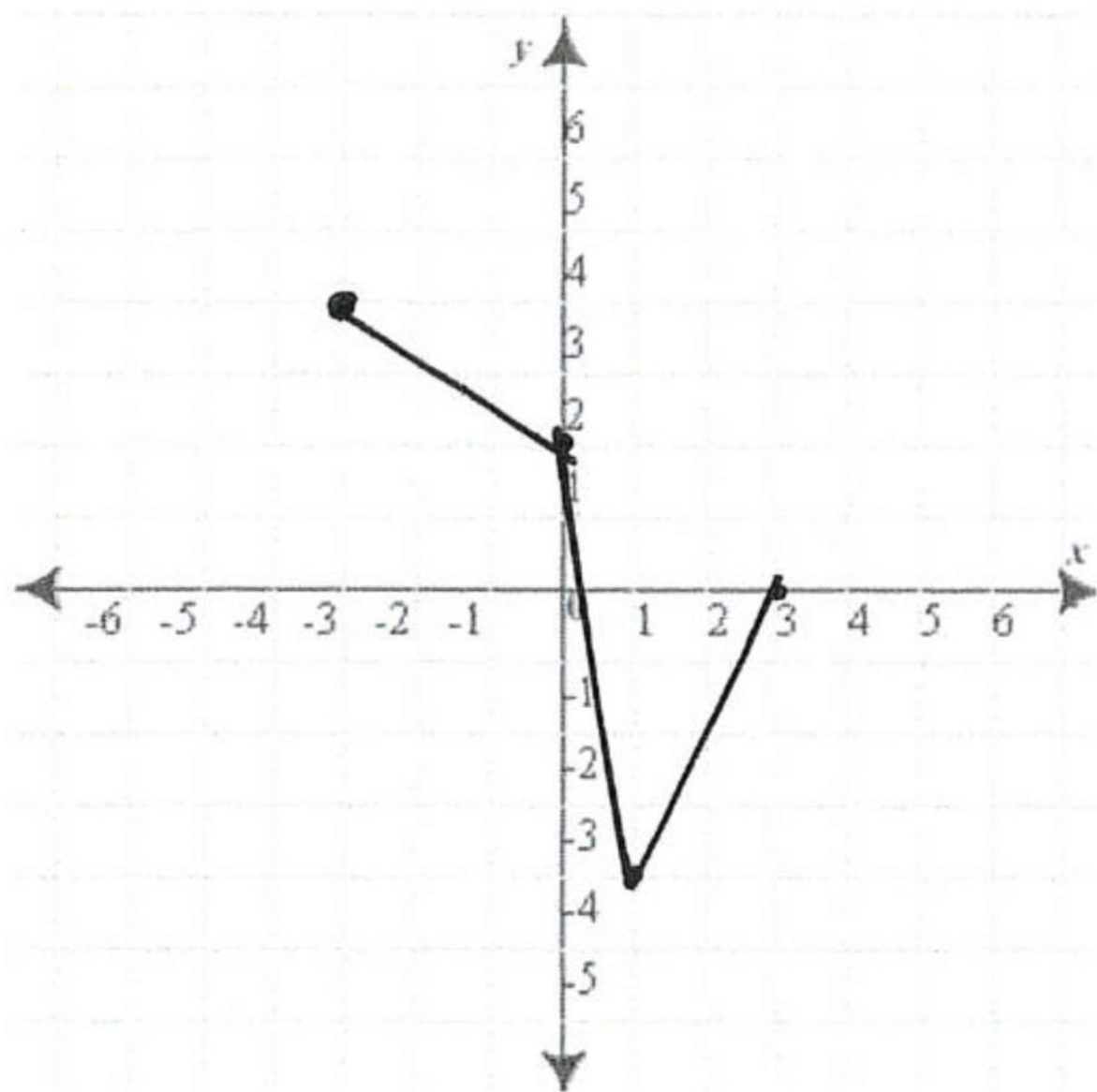


Write an equation whose graph is g.

$$f(x) = \sqrt{x}$$

a reflection over the y-axis  
a horizontal stretch by a factor of  
4, a horizontal shift right 2, and a  
vertical shift down 1

Sketch a graph of  $g(x) = 2 - \frac{1}{2}f(x + 1)$



Sketch a graph of  $g(x) = 3f(-2x) - 1$

