Precalculus–Trig Quiz 1.5–1.6 Review

Describe how the graph of $y=x^2$ can be transformed to the graph of the given equation.

1) $y = (x - 14)^2 + 7$

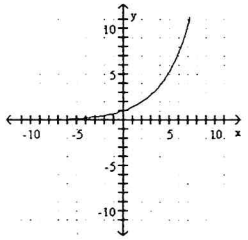
Give the equation of the function g whose graph is described.

2) The graph of $f(x) = x^2$ is vertically stretched by a factor of 6, and the resulting graph is reflected across the x-axis.

3) The graph of $f(x) = |x^2 + 6x|$ is horizontally stretched by a factor of 3.

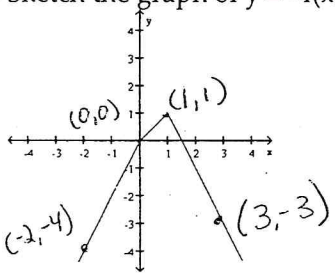
Determine if the function is one-to-one. Explain.

4)



Sketch the graph of the given function based on the graph of the function f given below.

5) Sketch the graph of $y = -f(x - 3) + 2$.



Sketch the graph of y_1 as a solid line or curve. Then sketch the graph of y_2 as a dashed line or curve.

6) $y_1 = x^2$, $y_2 = -2(x + 5)^2 + 2$

Describe how to transform the graph of f into the graph of g.

7) $f(x) = (x + 5)^2$ and $g(x) = -(x - 9)^2$

Find a direct relationship between x and y.

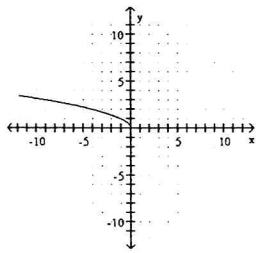
8) $x = t - 7$ and $y = t^2 + 6t$

Find the (x,y) pair for the value of the parameter.

9) $x = |t - 5|$ and $y = \dfrac{1}{t^2}$ for $t = 4$

The graph is that of a function y = f(x) that can be obtained by transforming the graph of $y = \sqrt{x}$. Write a formula for the function f.

10)



Find the inverse of the function.

11) $f(x) = \dfrac{-3x - 7}{9x - 4}$

Confirm that f and g are inverses.

12) $f(x) = x^3 + 5$ and $g(x) = \sqrt[3]{x - 5}$