

Transformations

Date _____ Period _____

Using mathematical language, describe (using words) each transformation.

1) $f(x) = 2 \cdot \left(\frac{1}{2}\right)^{x-1} - 1$

2) $f(x) = -3 \cdot 2^{x+1} + 1$

3) $f(x) = 4 \cdot \left(\frac{1}{2}\right)^{x+2} - 2$

4) $f(x) = -\frac{1}{2}(x+2)^2 - 2$

5) $f(x) = -2(x+3)^2 + 4$

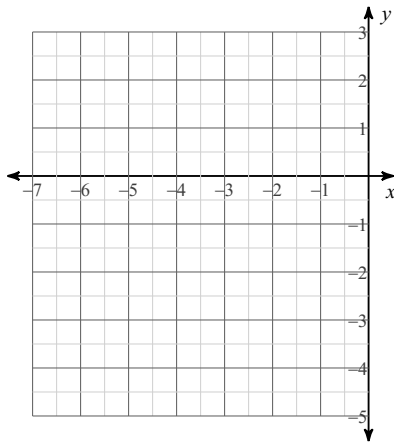
6) $y = 2\sqrt{x}$

7) $y = \sqrt[3]{x}$

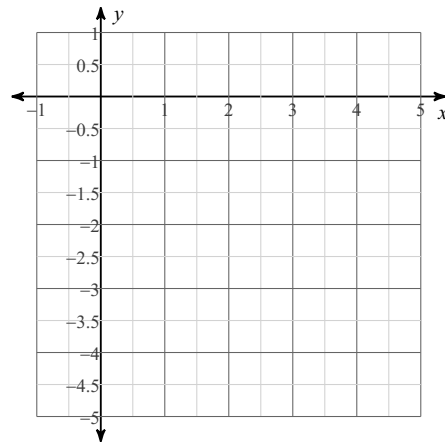
8) $y = \sqrt{x-4} - 1$

For #'s 9-10, the parent function is $f(x)=x^2$. Sketch the transformation of each function.

9) $f(x) = -(x + 4)^2 + 1$

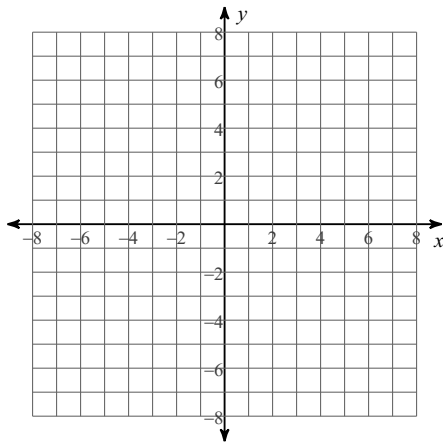


10) $f(x) = (x - 3)^2 - 4$

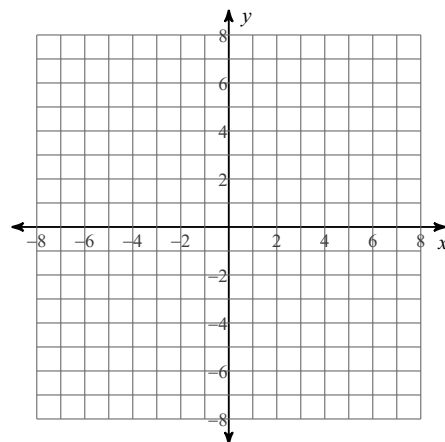


For numbers 11-12, the parent function is $f(x)=\sqrt{x}$. Sketch the transformation.

11) $y = \sqrt{x - 3} - 1$

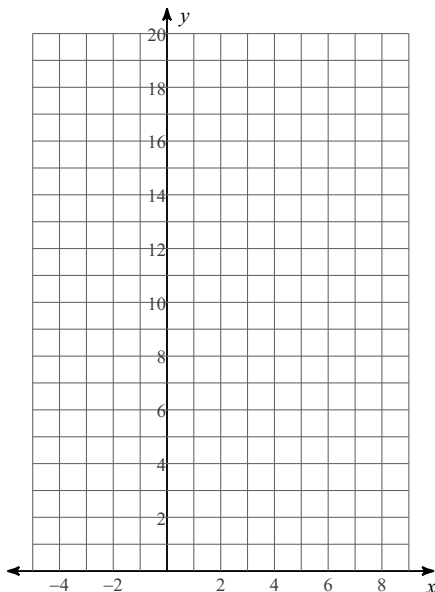


12) $y = \frac{2}{3}\sqrt{x} + 1$



For #'s 13-14 the parent function is $f(x)=(1/2)^x$. Sketch the transformation of each function.

13) $f(x) = 5 \cdot \left(\frac{1}{2}\right)^{x-2} + 1$



14) $f(x) = \frac{1}{3} \cdot \left(\frac{1}{2}\right)^{x+1} + 2$

