

### 8.3b Transformations

**Name the parent function and transformations.**

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

2)  $f(x) = 2(x + 1)^2 + 3$

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

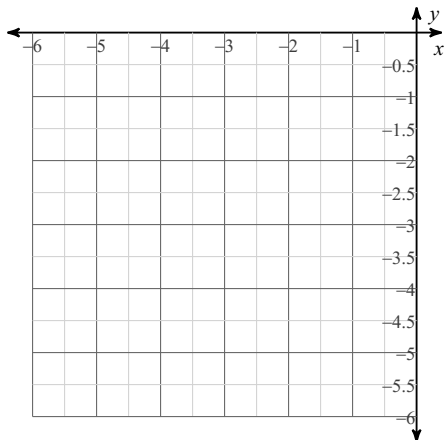
4)  $y = -4\sqrt{x} + 5$

5)  $y = \frac{2}{3}\sqrt{x} - 5$

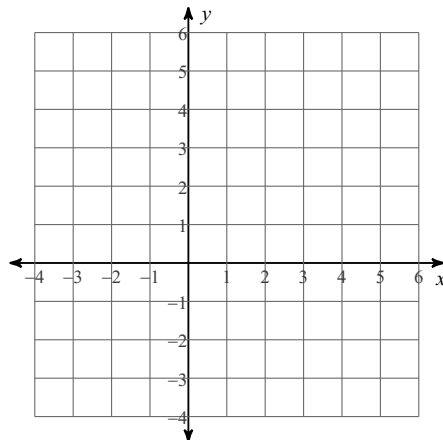
6)  $f(x) = -(x - 1)^2 + 4$

**Use your knowledge of parent functions and transformations to sketch the graph of each function. State the transformations from the parent function.**

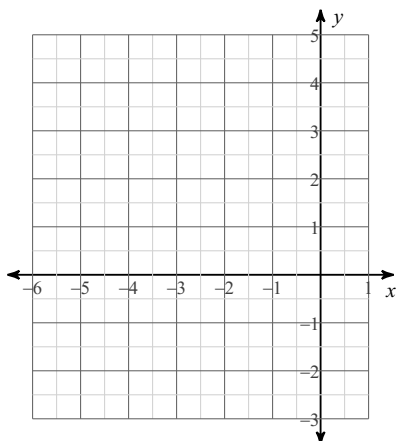
7)  $f(x) = -(x + 3)^2 - 1$



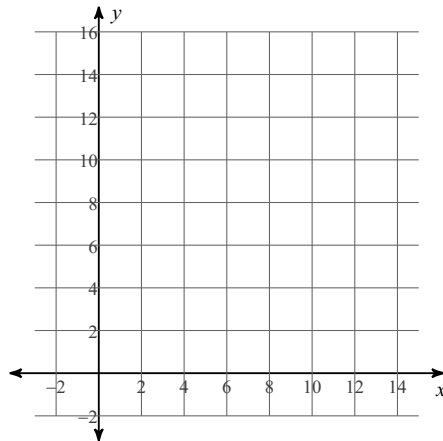
8)  $f(x) = 2(x - 1)^2 - 3$



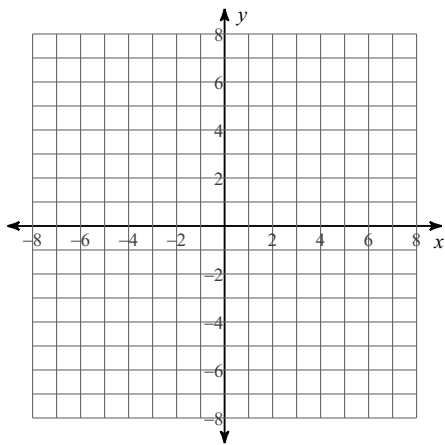
9)  $f(x) = -\frac{1}{2}(x + 4)^2 + 2$



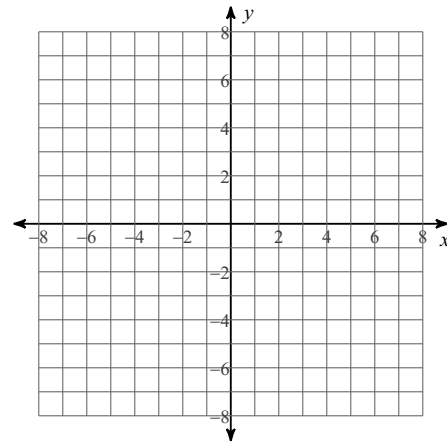
10)  $f(x) = 4(x - 1)^2 - 1$



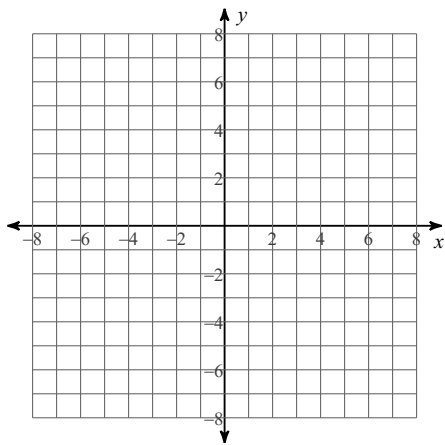
$$11) y = 3\sqrt{x} - 2$$



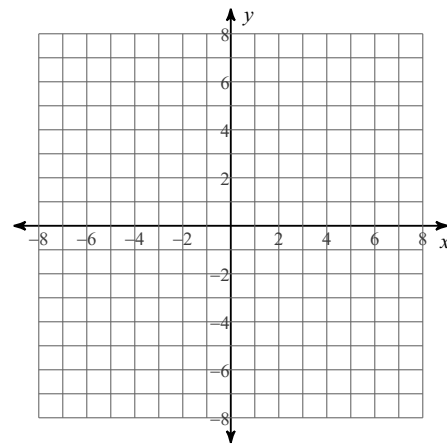
$$12) y = \frac{3}{5}\sqrt{x} - 3$$



$$13) y = \sqrt{x+1} + 3$$

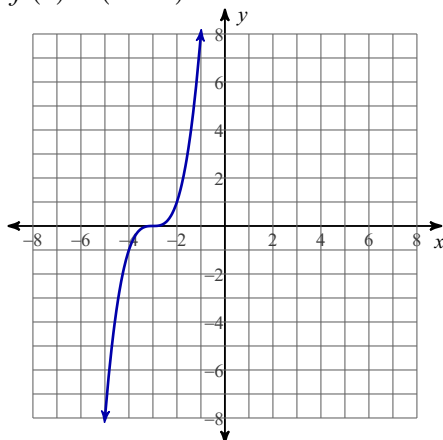


$$14) y = \sqrt{x-1} - 4$$



**State the transformations that have occurred from the parent function.**

$$15) f(x) = (x + 3)^3$$



$$16) g(x) = 2(x - 2)^3 - 5$$

