

The graph of a function $y = f(x)$ is translated 4 units down. If the equation of its image has the form $y - d = f(x)$, determine the value of “ d ”.

2.8 Comparing $y = f(x)$ to $y - k = f(x)$

$$y - 3 = |x|$$

$$y + 7 = |x|$$

1. The graph of a function $y = f(x)$ is translated as described below. The equation of its image has the form $y = f(x) + d$. Determine the value of d for each transformation.

a) Translate the graph 6 units down.

b) Translate the graph 1 unit up.

2. The graph of a function $y = f(x)$ is translated as described below. The equation of its image has the form $y - k = f(x)$. Determine the value of d for each transformation.

a) Translate the graph 7 units up.

b) Translate the graph 13 units down.

2.10 Example 1

Sketch the graph of the function: $y = \sqrt{x+3} - 4$

