



5-4 Reteach to Build Understanding

Transformations of Piecewise-Defined Functions

1. Use the variables from the function $f(x) = a|x - h| + k$ to complete the sentences.

The value of _____ translates the graph horizontally.

The value of _____ translates the graph vertically.

The vertex of $f(x)$ is (_____, _____).

When $0 < \text{_____} < 1$, the graph of the function is a vertical compression.

When _____ > 1 , the graph of the function is a vertical stretch.

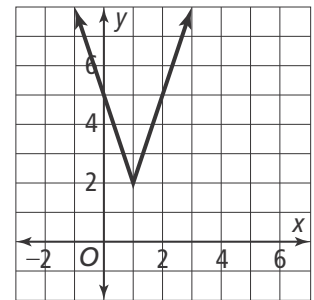
2. Franco made the statement, "The graph of the function $f(x) = a|x|$ when $0 < |a| < 1$ is a vertical stretch." What error did Franco make in his statement?

3. Complete the steps for writing the absolute value function from the graph. Write numbers in the blanks.

Step 1 Identify the vertex of the graph.

The vertex is (_____, _____),

so $h = \text{_____}$ and $k = \text{_____}$.



Step 2 Find the value of a . Use the point (2, 5).

$$g(x) = a|x - \text{_____}| + \text{_____}$$

$$\text{_____} = a|\text{_____} - \text{_____}| + \text{_____}$$

$$a = \text{_____}$$

The function is $g(x) = \text{_____}|x - \text{_____}| + \text{_____}$.

Use the function to check whether the points $(-1, 8)$ and $(4, 11)$ are on the graph.