LESSON 2.8

NAME _____ DATE _____

# Practice A

**For use with pages 122–128**

**Match the function with its graph.**

**1.** $f(x) = |x + 4|$

**2.** $f(x) = |x - 4|$

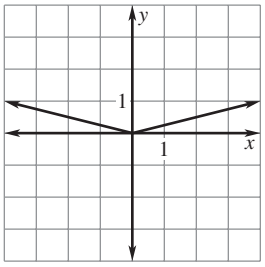
**3.** $f(x) = |x| + 4$

**4.** $f(x) = |x| - 4$

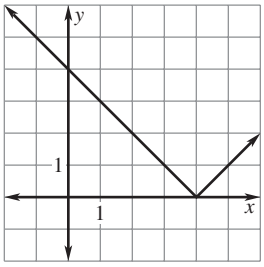
**5.** $f(x) = 4|x|$

**6.** $f(x) = \frac{1}{4}|x|$

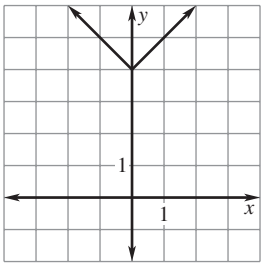
**A.**



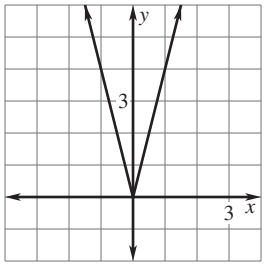

**B.**



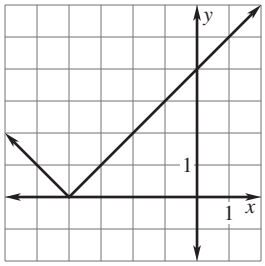

**C.**



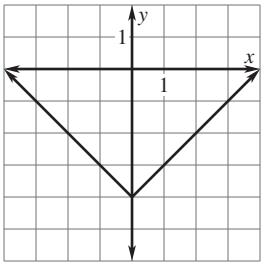

**D.**




**E.**




**F.**




**Tell whether the graph of the function opens up or down.**

**7.** $y = -3|x|$

**8.** $y = 3|x + 1|$

**9.** $y = |x + 1| - 10$

**10.** $y = 4|x - 1| + 3$

**11.** $y = -2|x + 1| + 7$

**12.** $y = -|x - 2| + 4$

**Identify the vertex of the graph of the given function.**

**13.** $y = 2|x| - 3$

**14.** $y = |x - 1| + 2$

**15.** $y = |x + 3| - 5$

**16.** $y = |x - 7| - 2$

**17.** $y = 2|x + 1| + 9$

**18.** $y = -5|x + 3|$

**Tell whether the graph of the function is *wider, narrower,* or the *same width* as the graph of $y = |x|$.**

**19.** $y = |x - 8|$

**20.** $y = 2|x - 1|$

**21.** $y = \frac{1}{2}|x + 3| - 2$

**22.** $y = -3|x + 1| + 7$

**23.** $y = -\frac{2}{3}|x - 6| + 3$

**24.** $y = \frac{9}{10}|x| + 13$

***Swimwear*** **In Exercises 25 and 26, use the following information.**

A sporting goods store sells swimming suits year round. The number of suits sold can be modeled by the function $S = -90|t - 6| + 540$, where $t$ is the time in months and $S$ is the sales in dollars.

**25.** Graph the function for $0 \leq t \leq 12$.

**26.** What is the maximum sales in one month? In what month is the maximum reached?