

## 8.7

## Challenge Practice

For use with pages 426–430

Let  $f(x) = -\frac{3}{2}x - 5$ . Find the indicated value.

1.  $f(x)$  when  $x = -14$
2.  $x$  when  $f(x) = -11$
3.  $f(x)$  when  $x = \frac{4}{9}$
4.  $x$  when  $f(x) = \frac{7}{8}$

Write a linear function that satisfies the given conditions.

5.  $f(0) = -4.8$   
 $f(1.2) = -0.6$
6.  $g\left(\frac{5}{6}\right) = -\frac{3}{8}$   
 $g(0) = \frac{2}{3}$
7.  $h(0) = \frac{3}{4}$   
 $h(-5) = -\frac{7}{3}$
8. Write a linear function  $g$  whose graph passes through  $(-2, 2)$  and is perpendicular to the graph of  $f(x) = -\frac{3}{2}x + 5$ .
9. The length of a rectangle is two more than three times its width. Write a function  $P(w)$  for the perimeter of the rectangle in terms of its width. Then use your function to find the perimeter of a rectangle that is 4.5 units wide.