

Indicators

Objective:

5.02 Write an equation of a linear relationship given: two points, the slope and one point on the line, or the slope and y-intercept.

Vocabulary and Resources

equation

slope-intercept form $f(x) = ax + b$

point-slope form $y - y_1 = a(x - x_1)$

standard form $Ax + By = C$

- A.** Determine the equation for each of the following:
- The line containing point $A (-4, 5)$ and point $B (3, -6)$
 - The line through the point $C (5, -2)$ with slope of $\frac{3}{5}$
 - The line with the y -intercept at $(0, 18)$ and slope of $-\frac{5}{2}$
 - The line with x -intercept of 4 and y -intercept of 2.
- B.** Graph and give the equation of each of the following lines:
- Line CD which includes points $C (-6, 4)$ and $D (2, -7)$
 - Line m with y -intercept at $(0, -5)$ and slope of $\frac{2}{3}$
 - Line AB through point $A (\frac{3}{4}, 6)$ with slope of 2
 - Line p through point $B (4, -2)$ with slope of 0
- C.** The number of licensed pilots in the United States grew from 622,000 in 1996 to 640,000 in 1999. Assuming a constant annual increase in the number of pilots, how many pilots could we expect to have by 2007? Write a linear equation to represent this relationship.
- D.** A man is 180 miles from home and is driving home at a speed of 45 mph. Write an equation to determine his distance from home at any point during his trip.

E. The 8th grade class is planning a barbeque picnic. They have a total of \$85 to spend on chicken and hamburger. Chicken sells for \$3 a pound and hamburger sells for \$2.50 a pound. Write an equation in standard form to indicate the amount of chicken and hamburger they can buy.