

1.4: Writing Linear Functions

### 5 Minute Check 1.4

- Graph the equation :  $2x + y - 4 = 0$
- Graph the equation  $4x + 8y - 16 = 0$
- Graph the equation  $y = -2/3x$
- Find the zeros of  $f(x) = 8x + 3$
- Find the x and y-intercepts of  $x + 2y - 3 = 0$


## 1.4 Writing Linear Equations

- Writing linear equations using points, slopes and intercepts.

### Lesson 1.4

## Writing Linear Equations

### How do we write a linear equation?



Vocabulary

- Model
- Point-slope form

### Writing equations of lines

- There are 2 common forms of equations of lines: slope-intercept and point-slope.
- Slope-intercept:  $y = mx + b$
- Point-slope:  $y - y_1 = m(x - x_1)$

1-4 NAME \_\_\_\_\_ DATE \_\_\_\_\_ PERIOD \_\_\_\_\_

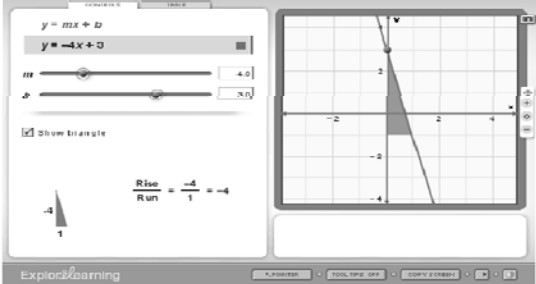
### Practice

#### Writing Linear Equations

Write an equation in slope-intercept form for each line described.

- slope = -4, y-intercept = 3
- slope = 5, passes through A(-3, 2)
- slope = -4, passes through B(3, 8)
- slope =  $\frac{4}{3}$ , passes through C(-9, 4)
- slope = 1, passes through D(-6, 6)
- slope = -1, passes through E(3, -3)
- slope = 3, y-intercept =  $\frac{3}{2}$
- slope = -2, y-intercept = -7
- slope = -1, passes through F(-1, 7)
- slope = 0, passes through G(3, 2)

### Practice #1,2- Slope/Intercept Form



### Practice #3,4 – Point/Slope Form

11. *Aviation* The number of active certified commercial pilots has been declining since 1980, as shown in the table.

a. Find a linear equation that can be used as a model to predict the number of active certified commercial pilots for any year. Assume a steady rate of decline.

b. Use the model to predict the number of pilots in the year 2003.

Number of Active Certified Pilots	
Year	Total
1980	182,087
1985	155,893
1990	143,014
1994	136,719
1999	132,500
1999	128,187

Source: U. S. Dept. of Transportation