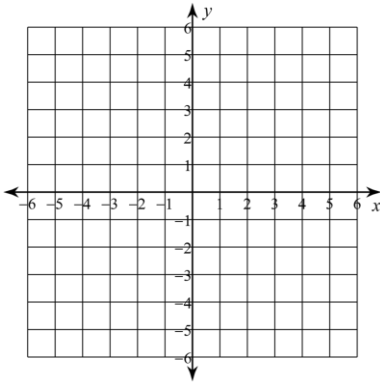


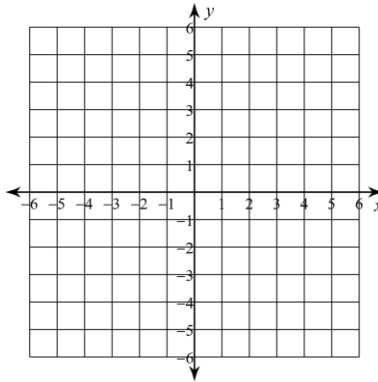
2.1.D2 - SLOPE-INTERCEPT FORM OF A LINEAR EQUATION

Graph the line described. Then write the equation in slope-intercept form.

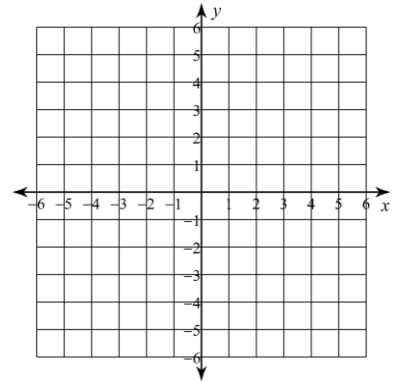
1. $m = \frac{3}{4}$; y int: -4



2. $m = -\frac{2}{3}$; y int: 5

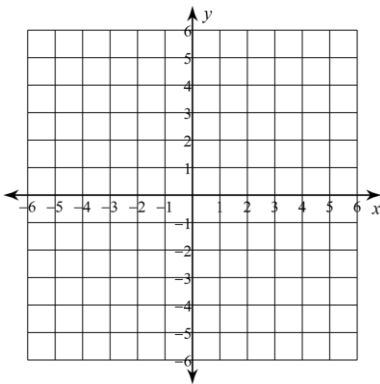


3. $m = -3$; y int: 2

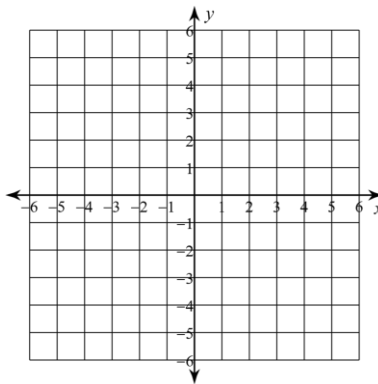


Graph the line whose equation is given.

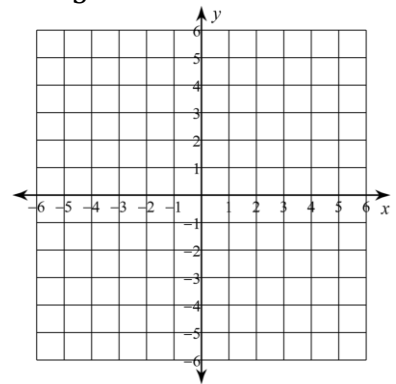
4. $y = 5x - 3$



5. $y = -x + 2$



6. $y = \frac{2}{3}x - 5$



Determine the horizontal intercept of the line whose equation is given.

7. $y = 4x + 2$

8. $y = -\frac{1}{2}x - 3$

9. $y = \frac{5}{3}x - 4$

Write a linear function to represent the problem situation.

10. Helen is in a bicycle race. She has already biked 10 miles and is now biking at a rate of 18 miles per hour. Her distance, d , is a function of time, t .
11. To rent a van, a moving company charges \$30 plus \$0.50 per mile. The cost, C , is a function of the number of miles driven, x .
12. In 2006, the population of a town was 18,310 and growing by 58 people per year. The population, P , is a function of the years since 2006, t .

13. A new Toyota Rav4 costs \$21,500. The car's value depreciates linearly to \$11,900 in three years time. Write a function which expresses its value, V , in terms of its age, t , in years.
14. A car is traveling on a highway. The distance (in miles) from its destination at time t (in hours) is given by the equation $d = 420 - 65t$.
- Identify and interpret the vertical intercept.
 - Identify and interpret the rate of change.
 - Find and interpret the horizontal intercept.
 - What is the practical domain and range of this function?
15. You are driving along the highway, and just before you reach the crest of a hill, you notice a sign that indicates the elevation at the crest is 2250 feet. As you proceed down the hill, you elevation is as given by the following table.

Distance Traveled from the Crest of the Hill, (ft.)	0	1000	3000	6000	10,000
Elevation, (ft.)	2250	2180	2040	1830	1550

- Using average rate of change, show that the elevation is a linear function of the distance travelled from the crest of the hill.
- Write an equation for the elevation, E , as a function of the distance travelled, d .
- Determine the horizontal intercept. What is the practical significance of the horizontal intercept?