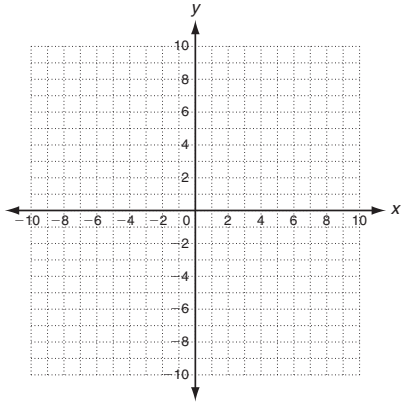


LESSON
5-7

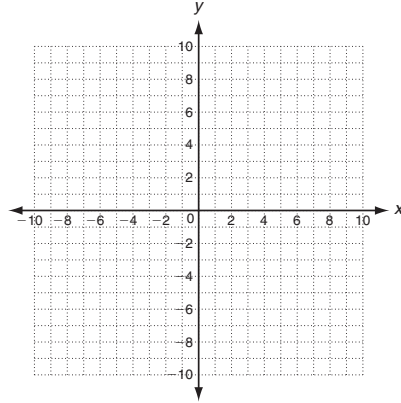
Practice C
Point-Slope Form

Graph the line with the given slope that contains the given point.

1. slope = -2 ; $(1, 3)$



2. slope = 0 ; $(-4, -2)$



Write an equation in point-slope form for the line with the given slope that contains the given point.

3. slope = $\frac{4}{3}$; $(-5, -3)$

4. slope = -3 ; $(0, 8)$

Write an equation in slope-intercept form for the line with the given slope that contains the given point.

5. slope = -4 ; $(2, -1)$

6. slope = $\frac{1}{4}$; $(-2, 3)$

Write an equation in slope-intercept form for the line through the two points.

7. $(-3, 6)$; $(2, 1)$

8. $(0, -5)$; $(6, -3)$

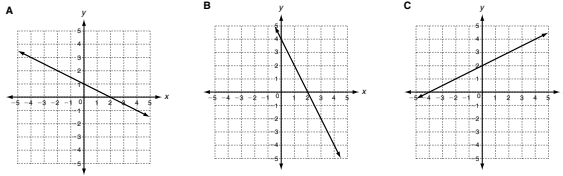
9. A pool is being drained at a constant rate. The amount of water is a function of the number of minutes the pool has been draining, as shown in the table. Write an equation in slope-intercept form that represents the function. Then find the amount of water in the pool after two and a half hours.

Time (min)	12	20	50
Volume (gal)	4962	4754	3974

LESSON **Practice A**
5-7 **Point-Slope Form**

Match each graph with the correct slope and point.

1. slope = $\frac{1}{2}$; (0, 2) **C** 2. slope = $-\frac{1}{2}$; (2, 0) **A** 3. slope = -2 ; (2, 0) **B**



Write an equation in point-slope form for the line with the given slope that contains the given point.

4. slope = 4; (3, 8) 5. slope = $-\frac{1}{2}$; (5, -3)
- $y - 8 = 4(x - 3)$ $y + 3 = -\frac{1}{2}(x - 5)$

Write an equation in slope-intercept form for the line with the given slope that contains the given point.

6. slope = 5; (1, 7) 7. slope = -3; (4, 0)
- $y = 5x + 2$ $y = -3x + 12$

Find the slope of the line that contains the given points. Then write an equation in slope-intercept form for the line.

8. (0, 2); (2, 6) 9. (8, -2); (4, -4)
- $2; y = 2x + 2$ $\frac{1}{2}; y = \frac{1}{2}x - 6$

10. The cost to have T-shirts made with the school logo is a function of the number of T-shirts ordered. The costs for 20, 50, and 100 shirts are shown. Write an equation in slope-intercept form that represents the function. Then find the cost of ordering 130 T-shirts.

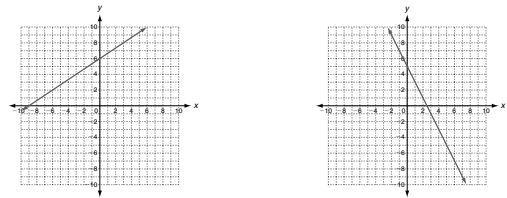
$y = 8x + 30; \$1070$

T-shirts	20	50	100
Cost (\$)	190	430	830

LESSON **Practice B**
5-7 **Point-Slope Form**

Graph the line with the given slope that contains the given point.

1. slope = $\frac{2}{3}$; (-3, 4) 2. slope = -2; (0, 5)



Write an equation in point-slope form for the line with the given slope that contains the given point.

3. slope = 3; (-4, 2) 4. slope = -1; (6, -1)
- $y - 2 = 3(x + 4)$ $y + 1 = -(x - 6)$

Write an equation in slope-intercept form for the line with the given slope that contains the given point.

5. slope = -4; (1, -3) 6. slope = $\frac{1}{2}$; (-8, -5)
- $y = -4x + 1$ $y = \frac{1}{2}x - 1$

Write an equation in slope-intercept form for the line through the two points.

7. (2, 1); (0, -7) 8. (-6, -6); (2, -2)
- $y = 4x - 7$ $y = \frac{1}{2}x - 3$

9. The cost of internet access at a cafe is a function of time. The costs for 8, 25, and 40 minutes are shown. Write an equation in slope-intercept form that represents the function. Then find the cost of surfing the web at the cafe for one hour.

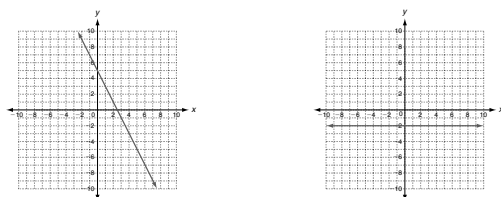
$y = 0.17x + 3; \$13.20$

Time (min)	8	25	40
Cost (\$)	4.36	7.25	9.80

LESSON **Practice C**
5-7 **Point-Slope Form**

Graph the line with the given slope that contains the given point.

1. slope = -2; (1, 3) 2. slope = 0; (-4, -2)



Write an equation in point-slope form for the line with the given slope that contains the given point.

3. slope = $\frac{4}{3}$; (-5, -3) 4. slope = -3; (0, 8)
- $y + 3 = \frac{4}{3}(x + 5)$ $y - 8 = -3(x - 0)$

Write an equation in slope-intercept form for the line with the given slope that contains the given point.

5. slope = -4; (2, -1) 6. slope = $\frac{1}{4}$; (-2, 3)
- $y = -4x + 7$ $y = \frac{1}{4}x + \frac{7}{2}$

Write an equation in slope-intercept form for the line through the two points.

7. (-3, 6); (2, 1) 8. (0, -5); (6, -3)
- $y = -x + 3$ $y = \frac{1}{3}x - 5$

9. A pool is being drained at a constant rate. The amount of water is a function of the number of minutes the pool has been draining, as shown in the table. Write an equation in slope-intercept form that represents the function. Then find the amount of water in the pool after two and a half hours.

$y = -26x + 5274; 1374 \text{ gal}$

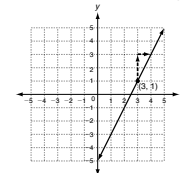
Time (min)	12	20	50
Volume (gal)	4962	4754	3974

LESSON **Reteach**
5-7 **Point-Slope Form**

You can graph a line if you know the slope and any point on the line.

Graph the line with slope 2 that contains the point (3, 1).

- Step 1: Plot (3, 1).
Step 2: The slope is 2 or $\frac{2}{1}$. Count 2 up and 1 right and plot another point.
Step 3: Draw a line connecting the points.



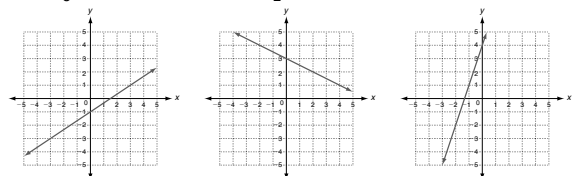
Write an equation in point-slope form for the line with slope $-\frac{1}{3}$ that contains the point (5, 2).

- The point-slope form of a linear equation is $y - y_1 = m(x - x_1)$.
Substitute $-\frac{1}{3}$ for m , 5 for x_1 , and 2 for y_1 .
 $y - 2 = -\frac{1}{3}(x - 5)$

m is the given slope.
 (x_1, y_1) is the given point.

Graph the line with the given slope that contains the given point.

1. slope = $\frac{2}{3}$; (-3, -3) 2. slope = $-\frac{1}{2}$; (-2, 4) 3. slope = 3; (-2, -2)



Write an equation in point-slope form for the line with the given slope that contains the given point.

4. slope = $-\frac{2}{5}$; (5, 1) 5. slope = 5; (-2, 6) 6. slope = $\frac{1}{6}$; (-4, 0)
- $y - 1 = -\frac{2}{5}(x - 5)$ $y - 6 = 5(x + 2)$ $y - 0 = \frac{1}{6}(x + 4)$