

## Unit 2.3 Practice Point Slope Form

Period: \_\_\_\_\_

Write an equation of the line in point slope form through the given point and with the given slope  $m$ .

1.  $(2, 1)$ ;  $m = 3$

2.  $(-3, -5)$ ;  $m = -2$

3.  $(-4, 11)$ ;  $m = \frac{3}{4}$

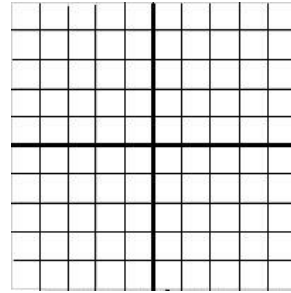
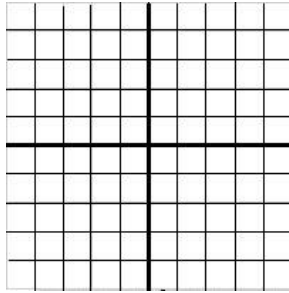
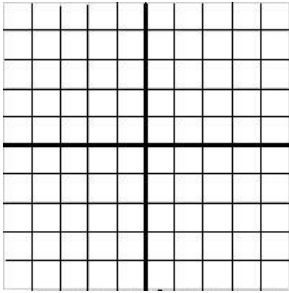
4.  $(0, -3)$ ;  $m = -\frac{2}{3}$

Graph each equation.

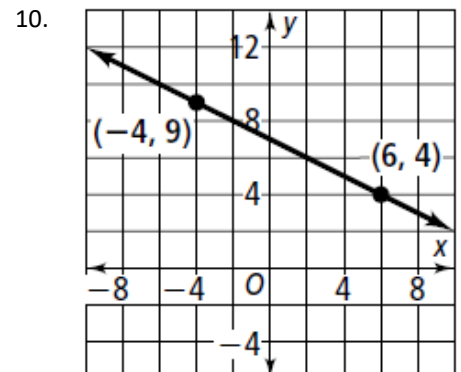
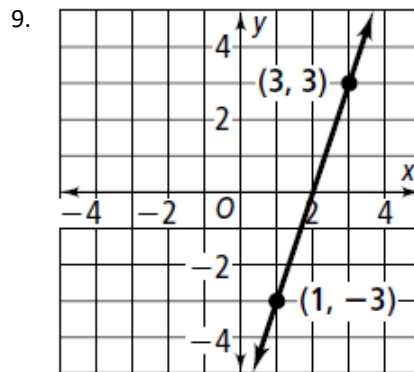
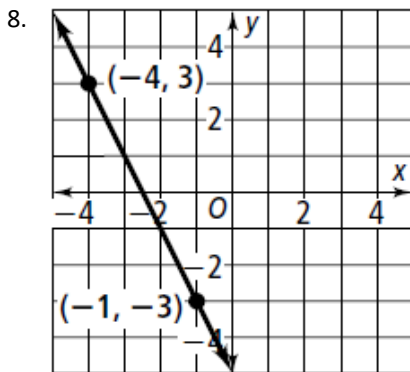
5.  $y - 2 = 2(x + 3)$

6.  $y + 3 = -2(x + 1)$

7.  $y + 1 = -\frac{3}{5}(x + 5)$



Write an equation in point slope form for each line. Hint: use the points given to write the equation.



Write an equation in point slope form of the line through the given points. Then write the equation in slope intercept form.

11.  $(4, 0), (-2, 1)$

12.  $(-3, -2), (5, 3)$

13.  $(-5, 1), (3, 4)$

## 14. Open Ended

Write an equation of a line that has a slope of  $-\frac{1}{2}$  in each form.

a. Point slope form

b. slope intercept form

Model the data in each table with a linear equation in slope intercept form.  
What do the slope and y-intercept represent?

15.

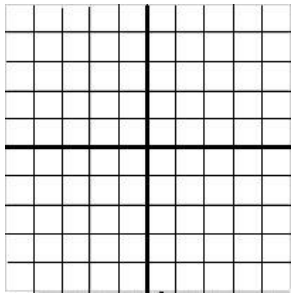
Time Washing (hr)	Cars washed
3	18
5	30
6	36
8	48

16.

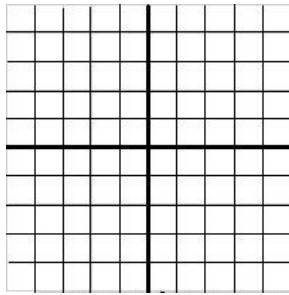
Time Flying (hr)	Distance from Airport (mi)
2	3600
4	2700
6	1800
8	900

Graph the line that passes through the given point and has the given slope  $m$ .

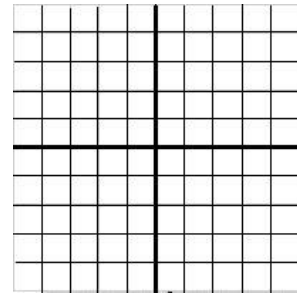
17.  $(-3, -4)$ ;  $m = 6$



18.  $(-2, 1)$ ;  $m = -3$



19.  $(-4, -2)$ ;  $m = \frac{1}{2}$



20. **Writing**

Describe what you know about the graph of a line represented by the equation  $y - 3 = -\frac{2}{3}(x + 4)$ .

21. **Writing**

Describe how you would use the point slope form to write the equation of a line that passes through the points  $(-1, 4)$  and  $(-3, -5)$  in slope intercept form.

22. **Writing**

Describe how linear data given in a table can help you write an equation of a line in slope intercept form.

23. A sign says that 3 tickets cost \$22.50 and that 7 tickets cost \$52.50.  
Write an equation in point slope form that represents the cost of tickets.