

# Practice 9

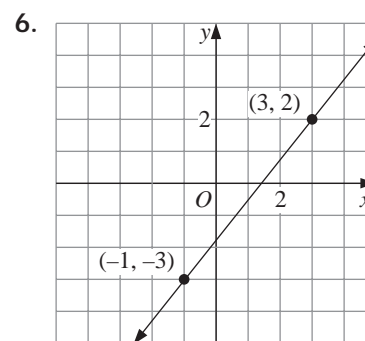
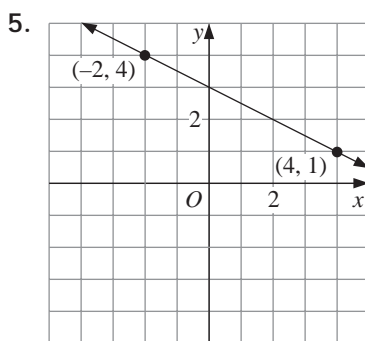
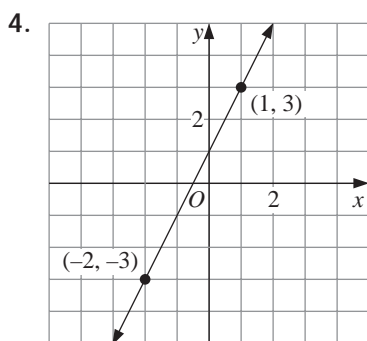
FOR USE WITH SECTION 2.3

For Exercises 1–3:

- a. Write a point-slope equation of the line passing through the given points and having the given slope.
- b. Graph the equation.
- c. Write the equation in slope-intercept form.

1.  $(-1, 3)$ ; slope = 5      2.  $(2, -7)$ ; slope =  $\frac{3}{4}$       3.  $(-4, 0)$ ; slope =  $-\frac{1}{4}$

Find a point-slope equation of each line.



Find a point-slope equation of the line through each pair of points.

7.  $(7, 5)$  and  $(3, 9)$       8.  $(-4, 1)$  and  $(6, 5)$       9.  $(9, -2)$  and  $(3, 10)$   
 10.  $(-2, 4)$  and  $(11, 4)$       11.  $(6, -5)$  and  $(-2, -17)$       12.  $(-1, 4)$  and  $(2, -8)$   
 13.  $(0, 12)$  and  $(7, 5)$       14.  $(1, \frac{1}{2})$  and  $(13, \frac{5}{2})$       15.  $(\frac{2}{3}, -6)$  and  $(\frac{4}{3}, -5)$

Find the domain and range of each function.

16.  $f(x) = 3x + 7$  for  $x \geq -2$       17.  $f(x) = -2x + 3$  for  $x > 1$   
 18.  $f(x) = \frac{1}{2}x - 5$  for  $x < 4$       19.  $f(x) = 3$  for  $x \geq 7$   
 20. In a science experiment, a flask of water was left out to evaporate, in order to recover a dissolved salt. After 3 h, there were  $150 \text{ cm}^3$  of water left in the flask, and after 5 h there were  $40 \text{ cm}^3$  left.  
 a. Write a point-slope equation for  $y$ , the amount of water left in the flask after  $x$  hours.  
 b. How much water was in the flask when it was first put out?