

Write an equation of the line that passes through the given point and has the given slope.

1. $(-1, 6)$; $m=5$

$$y-6=5(x+1)$$

$$y-6=5x+5$$

$$\begin{array}{r} +6 \\ +6 \end{array}$$

$$y=5x+11$$

2. $(10, 3)$; $m=-2$

$$y-3=-2(x-10)$$

$$y-3=-2x+20$$

$$\begin{array}{r} +3 \\ +3 \end{array}$$

$$y=-2x+23$$

3. $(2, -3)$; $m=7$

$$y+3=7(x-2)$$

$$y+3=7x-14$$

$$\begin{array}{r} -3 \\ -3 \end{array}$$

$$y=7x-17$$

4. $(-4, -9)$; $m=2$

$$y+9=2(x+4)$$

$$y+9=2x+8$$

$$\begin{array}{r} -9 \\ -9 \end{array}$$

$$y=2x-1$$

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

$$y+4=\frac{1}{3}(x-5)$$

$$3(y+4)=\frac{1}{3}(x-5) \cdot 3$$

$$3y+12=x-5$$

$$\begin{array}{r} -12 \\ -12 \end{array}$$

$$\frac{3y}{3}=\frac{x-17}{3}$$

$$y=\frac{1}{3}x-\frac{17}{3}$$

6. $(-8, 1)$; $m=-\frac{3}{4}$

$$y-1=-\frac{3}{4}(x+8)$$

$$y-1=-\frac{3}{4}x-6$$

$$\begin{array}{r} +1 \\ +1 \end{array}$$

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

Write an equation of the line that passes through the given points.

7. $(-10, 7)$, $(5, -3)$

$$\frac{7+3}{-10-5}=\frac{10}{-15}=-\frac{2}{3}$$

$$y+3=-\frac{2}{3}(x-5)$$

$$3(y+3)=-\frac{2}{3}(x-5) \cdot 3$$

$$3y+9=-2x+10$$

$$\begin{array}{r} -9 \\ -9 \end{array}$$

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

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

8. $(4, -3)$, $(12, 17)$

$$\frac{-3-17}{4-12}=\frac{-20}{-8}=\frac{5}{2}$$

$$y+3=\frac{5}{2}(x-4)$$

$$y+3=\frac{5}{2}x-10$$

$$\begin{array}{r} -3 \\ -3 \end{array}$$

$$y=\frac{5}{2}x-13$$

9. $(-7, 0)$, $(4, 11)$

$$\frac{0-11}{-7-4}=\frac{-11}{-11}=1$$

$$y=1(x+7)$$

$$y=x+7$$

10. $(4, -2)$, $(8, -5)$

$$\frac{-2+5}{4-8}=\frac{3}{-4}=-\frac{3}{4}$$

$$y+2=-\frac{3}{4}(x-4)$$

$$y+2=-\frac{3}{4}x+3$$

$$\begin{array}{r} -2 \\ -2 \end{array}$$

$$y=-\frac{3}{4}x+1$$

11. $(0, 0)$, $(4, -20)$

$$\frac{0+20}{0-4}=\frac{20}{-4}=-5$$

$$y-0=-5(x-0)$$

$$y=-5x$$

12. $(6, 3)$, $(9, 15)$

$$\frac{3-15}{6-9}=\frac{-12}{-3}=4$$

$$y-3=4(x-6)$$

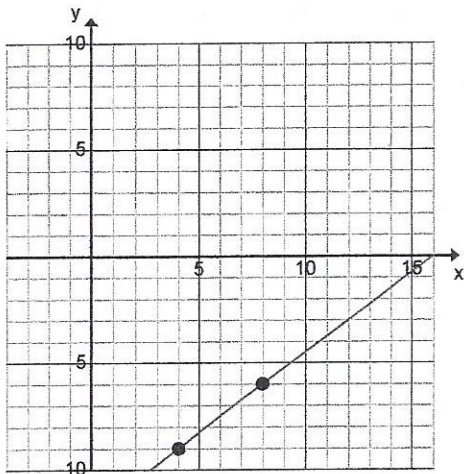
$$y-3=4x-24$$

$$\begin{array}{r} +3 \\ +3 \end{array}$$

$$y=4x-21$$

Write an equation of the line shown.

17.



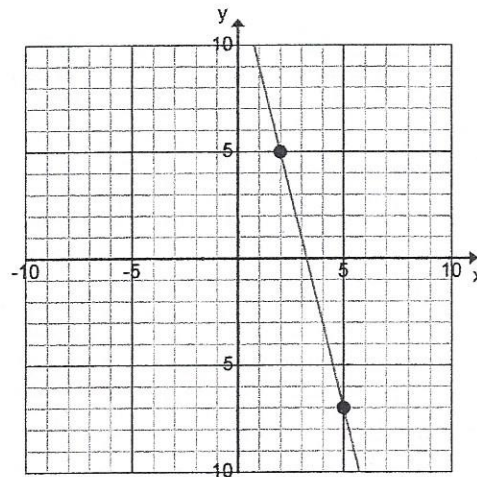
$$m = \frac{3}{4} \quad (8, 6)$$

$$y + 6 = \frac{3}{4}(x - 8)$$

$$y + 6 = \frac{3}{4}x - 6$$

$$\boxed{y = \frac{3}{4}x - 12}$$

18.



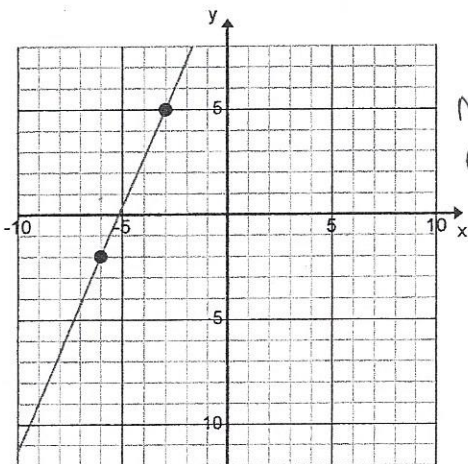
$$m = -4 \quad (2, 5)$$

$$y - 5 = -4(x - 2)$$

$$y - 5 = -4x + 8$$

$$\boxed{y = -4x + 13}$$

19.



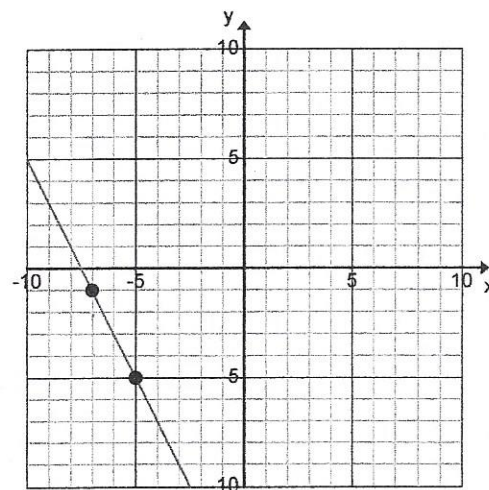
$$m = \frac{7}{3} \quad (3, 5)$$

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

$$y - 5 = \frac{7}{3}x + 7$$

$$\boxed{y = \frac{7}{3}x + 12}$$

20.



$$m = -2 \quad (-7, 1)$$

$$y + 1 = -2(x + 7)$$

$$y + 1 = -2x - 14$$

$$\boxed{y = -2x - 15}$$