

Find the slope of the line that passes through the given points.

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

2. $\left(-4, \frac{1}{2}\right)$ and $\left(\frac{7}{3}, \frac{7}{2}\right)$

3. $\left(\frac{1}{2}, 4\right)$ and $\left(\frac{7}{4}, 2\right)$

Determine whether the graphs of the two equations are parallel, perpendicular, or neither.

4. $y = x$
 $y = -x - 12$

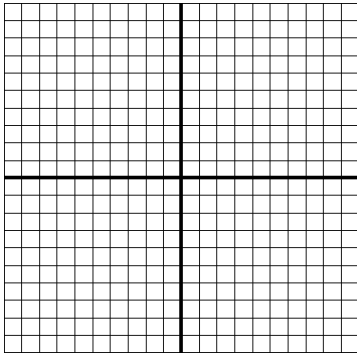
5. $y = \frac{4}{5}x - 7$
 $y = 6 + \frac{4x}{5}$

6. $f(x) = \frac{2}{3}x + 10$
 $-6x - 9y = 22$

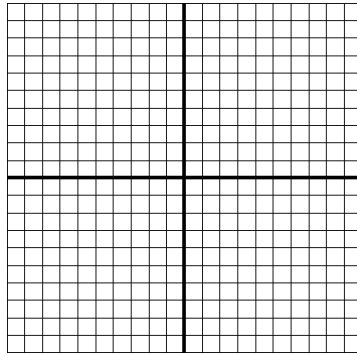
7. $5x + 25y = -11$
 $-x - 5y = 6$

Graph the function.

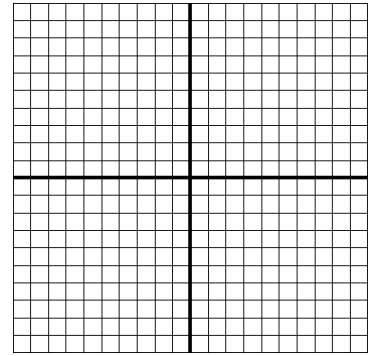
8. $y = \frac{1}{2}x + 3$



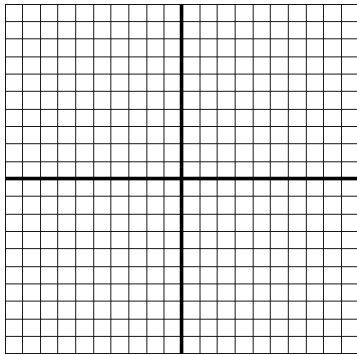
9. $y = -x$



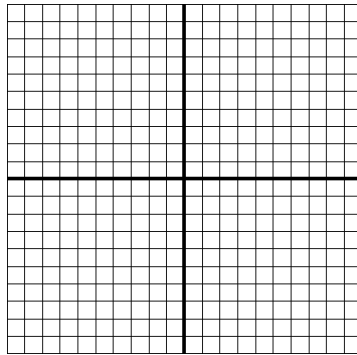
10. $x = -4$



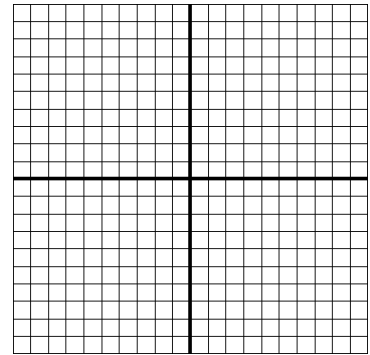
11. $3x + y = 6$



12. $4x - 3y = -9$



13. $4x - 2y = 12$



Write the equation of the line in slope-intercept form that satisfies the given conditions.

14. Through $(0, 5)$, slope -2

15. Through $(-5, -1)$, slope 6

16. Through $\left(0, \frac{3}{4}\right)$, slope $\frac{3}{4}$

17. Through $(3,1)$ and $(-1,4)$

18. Through $(5,-6)$ and $(2,-8)$

19. The graph is parallel to the graph of $y = 2x + 3$ and passes through the point whose coordinates are $(2,-4)$.

20. The graph is parallel to the graph of $3x + 4y = 12$ and passes through the point whose coordinates are $(-4,2)$.

21. The graph is perpendicular to the graph of $y = 2x - 5$ and passes through the point whose coordinates are $(3,-4)$.

22. The graph is perpendicular to the graph of $5x - y = 2$ and passes through the point whose coordinates are $(10,-2)$.

Application Problems:

23. Pg. 194 #73

24. Pg. 196 #89