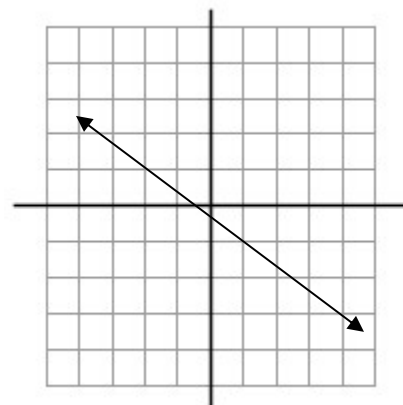


Lines and Linear Equations Discussion Examples

Be able to determine slope of a line.

1. Find the slope of the line through $(3,-4)$ and $(7,2)$.
2. Find the slope of the line through $(0,3)$ and $(-5,3)$.
3. Find the slope of the line $2y + 17 = 5$.
4. Find the slope of the line $12x - 3y = 10$
5. Find the slope of the line $y = -\frac{2}{3}x + 4$
6. Find the slope of the line shown at the right.



Be able to graph a line (there are three main methods).

7. Use a t-chart with at least 5 points to graph $3x - 2y = 8$.
8. Use the point-slope method of graphing the line through $(-2,0)$ having slope $m = -\frac{1}{3}$.
9. Use the x-and y-intercept method, along with a third check point to graph the line $3x + y = 7$.
10. Graph the line $y = \frac{4}{3}x - 5$.

Write equations for lines, including parallel and perpendicular lines.

11. Write an equation in slope-intercept form for the line containing $(2,-3)$ and $(-4,1)$.
12. Write an equation in standard form for the line containing $(3,-2)$ with slope $m = -\frac{1}{4}$.
13. Write an equation in standard form for the line through $(-2,5)$ and parallel to the line $-8x + 2y = 13$.
14. Write an equation in standard form for the line through the origin and perpendicular to the line $-2x + 3y = 7$.
15. Write an equation for the perpendicular bisector of the line segment between $(-7,1)$ and $(-3,-3)$.

Extend your knowledge and analytical abilities about lines.

16. Write an equation for the horizontal line through the point $(-3,4)$.
17. Name a point on the line $2x + 9y = 3$.
18. Determine K so that the line between $(3,k)$ and $(-1,9)$ has a slope of -4 .
19. What is the slope of a vertical line?
20. Find the equation in slope-intercept form of the line having y -intercept 6 and parallel to the x -axis.
21. Find the equation in standard form of the line having x -intercept -4 and parallel to the y -axis.
22. Find the equation in standard form of the line having x -intercept 4 and y -intercept 3 .
23. Find the equation in slope-intercept form of the line having x -intercept -3 and y -intercept -1 .
24. Find the equation in slope-intercept form of the line through $Q(-3,2)$ and parallel to the line containing $(2,3)$ and $(1,-2)$.
25. Determine K so that the line $(2k + 1)x + 3y = 15$ has a slope of $-\frac{3}{5}$.

