TOPIC 5: Graphing

Graphing a point on the number line.
Graph the following points on the number line.

1. \(-2\)
2. \(-\frac{5}{2}\)
3. \(1\frac{3}{7}\)

Graphing a linear inequality in one variable on the number line.
Solve and graph on number line.

4. \(2x - 1 < 5\)
5. \(2 - x \leq x + 10\)

Graphing a point in the coordinate plane.

6. What quadrant does the point \((a,b)\) lie, if \(a<0\) and \(b>0\)?
7. If the point \((a,b)\) is in quadrant II and the point \((c,d)\) is in quadrant III, which point has a smaller y-value?
8. Plot the point \((-3, 6)\)
Graphing linear equations on the coordinate plane.
Graph the following lines and give the slope:

9. \( y = 2x - 1 \)

10. \( y = -7 \)

11. \( x = 4 \)

Slope of a line through two points.
Find the slope of the line joining the given points:

12. \( (2, -1) \) and \( (-3, -7) \)

13. \( (4, -6) \) and \( (4, 3) \)

14. \( (-3, -1) \) and \( (5, -1) \)
ANSWERS
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1. dot on the number line at -2
2. dot on the number line halfway between -3 and -2
3. break the number line between 1 and 2 into 7 equal parts. Put dot above 3/7 of the way from 1 to 2
4. $x < 3$
   open circle at 3, arrow pointing left
5. $x \geq -4$
   closed circle at -4, arrow pointing right
6. quadrant II
7. (c,d)
8. starting at the origin, move left 3 units, then up six units - draw a dot.
9. graph at least 3 points
   e.g. (0, -1)
       (1, 1)
       (-1, -3)
   Slope = 2
10. horizontal line that goes through the point (0, 7). Slope = 0
11. vertical line that goes through the point (4,0). Undefined slope
12. $\frac{6}{5}$
13. undefined
14. 0

For more examples, click here.