

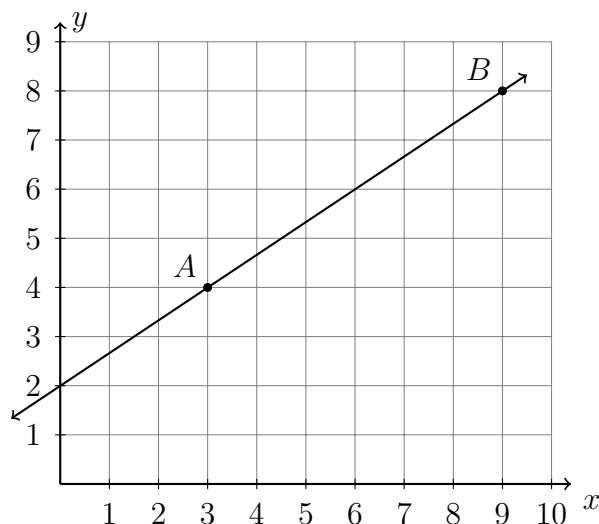
Name: _____

BECA / Dr. Huson / IB Math 6 Geometry

6.9 Linear equations

The slope of a line: $m = \frac{y_2 - y_1}{x_2 - x_1}$

1. Do Now: Find the midpoint and slope of the segment $A(3, 4)$, $B(9, 8)$.

**The slope-intercept equation of a line**

$y = mx + b$, where m is the slope and b is the y -intercept

2. The line l has the equation $y = \frac{3}{2}x - 1$.

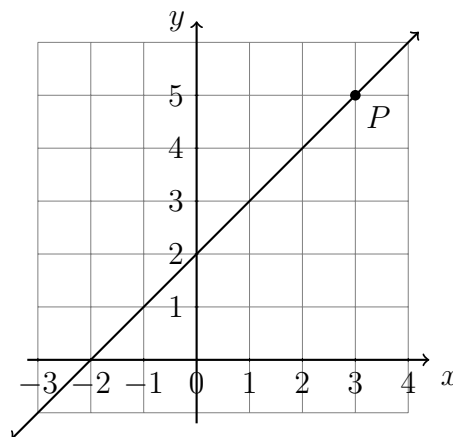
- (a) Write down its slope and y -intercept. $m =$ $b =$
 (b) Is the point $(4, 4)$ on the line l ? Justify your answer.

3. A line is shown on the grid below.

- (a) Write down its slope, y -intercept.
 $m =$ $b =$

- (b) Write down the equation of the line.

- (c) State the coordinates of the point P .



4. Draw a straight line through the points A and B shown on the grid below.

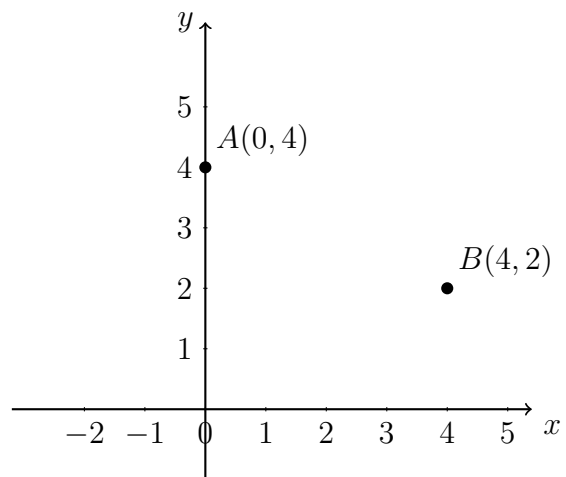
(a) Write down the line's y -intercept.

$b =$

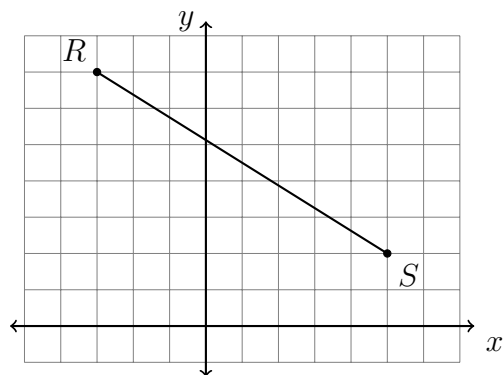
(b) Write down the slope of the line.

$m =$

(c) Write down the equation of the line.



5. Find the coordinates of the midpoint M of \overline{RS} , $R(-3, 7)$ and $S(5, 2)$. Mark and label it on the graph.



6. Point P partitions \overline{MN} , $M = -5$ and $N = 7$, in the ratio $3 : 1$. Find the value of point P . Mark and label P on the graph.

