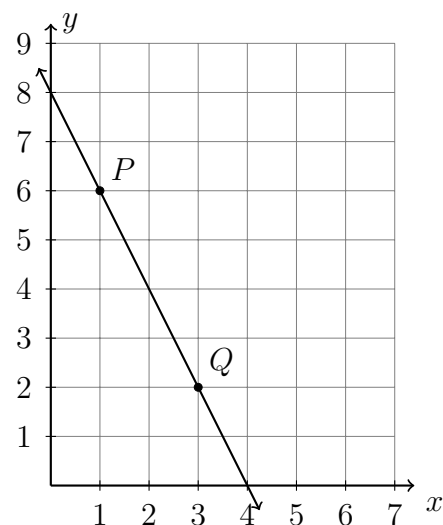Name:

BECA / Dr. Huson / Geometry 04 Analytic Geometry
4.6 Slopes of parallel lines

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

1. Do Now: Given $\overleftrightarrow{PQ}$, $P(1,6)$, $Q(3,2)$. Find its slope, y-intercept, and equation.

Parallel lines have the same slope
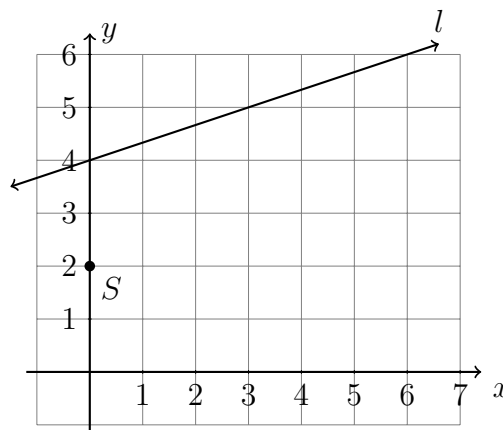
2. The line l is shown on the grid below.

   (a) Write down it's slope, y-intercept.
       $m =$ $b =$

   (b) Write down the equation of line l.

   (c) Draw a line parallel to line l though point S.

   (d) Write down the equation of the second line.
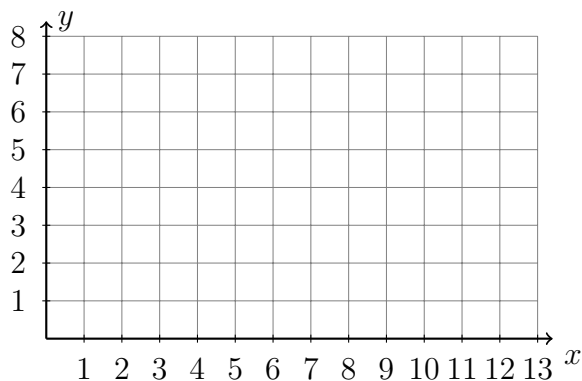

3. The line has the equation $y = -x + 7$.

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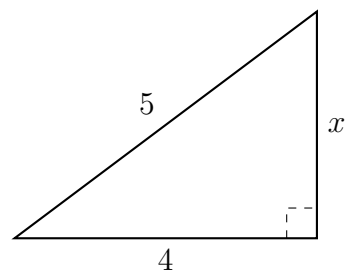
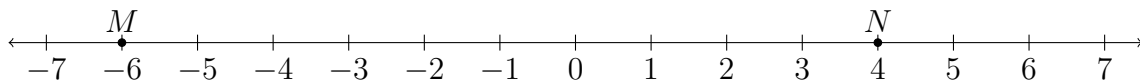   (b) Is the point $(4,4)$ on the line? Justify your answer.

4. Graph and label $\triangle CAT$. Calculate the lengths of its sides. $C(2,1)$, $A(12,6)$, $T(12,1)$.

5. The base of a right triangle is 4 centimeters long and its hypotenuse is 5 cm. Find its height, x cm.

6. Point P partitions $\overline{MN}$, $M = -6$ and $N = 4$, in the ratio $1 : 4$. Find the value of point P. Mark and label P on the graph.

7. Given $M(1)$, the midpoint of $\overline{AB}$. Point $A = -3$, find the value of point B. Mark and label B on the graph.