

Straight Line Questions – None Calculator

1.

The centre of a circle is the point with coordinates $(-1, 3)$

The point A with coordinates $(6, 8)$ lies on the circle.

Find an equation of the tangent to the circle at A .

Give your answer in the form $ax + by + c = 0$ where a , b and c are integers.

2,

The straight line L_1 has equation $y = 3x - 4$

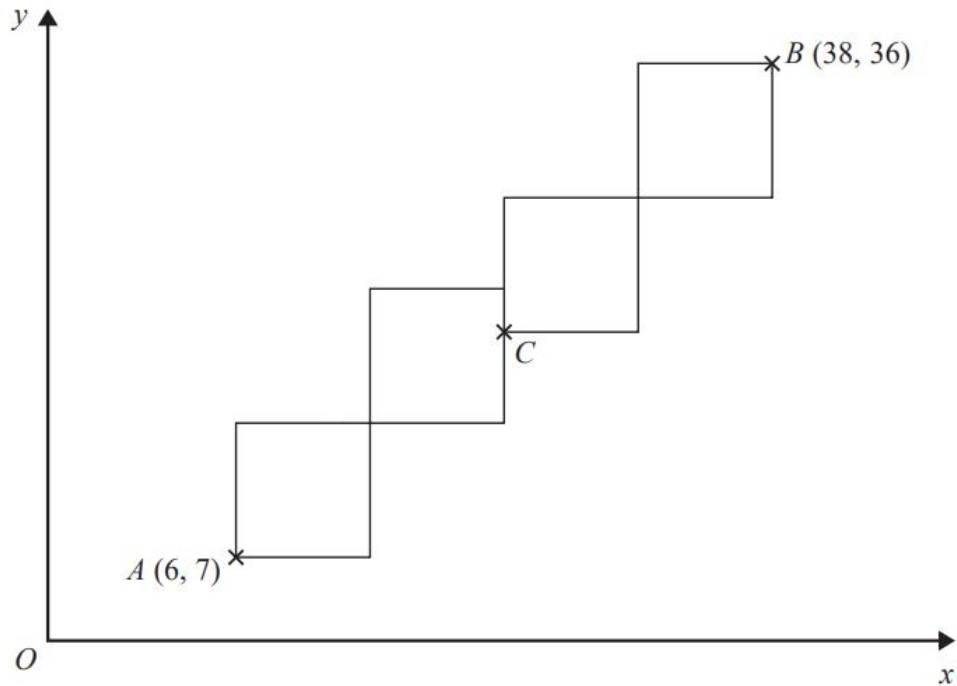
The straight line L_2 is perpendicular to L_1 and passes through the point $(9, 5)$

Find an equation of line L_2

3.

A pattern is made from four identical squares.

The sides of the squares are parallel to the axes.



Point *A* has coordinates (6, 7)

Point *B* has coordinates (38, 36)

Point *C* is marked on the diagram.

Work out the coordinates of *C*.

4.

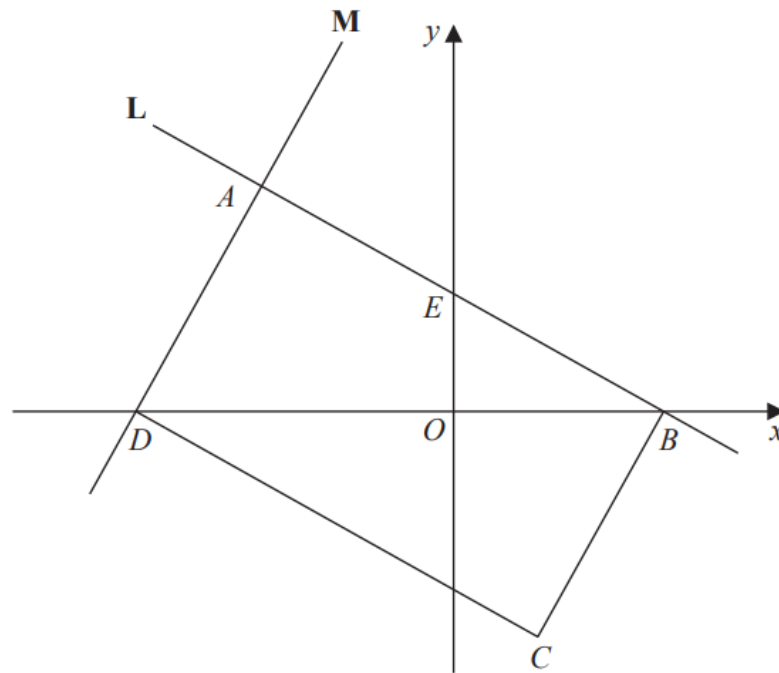
The point P has coordinates $(3, 4)$

The point Q has coordinates (a, b)

A line perpendicular to PQ is given by the equation $3x + 2y = 7$

Find an expression for b in terms of a .

5.



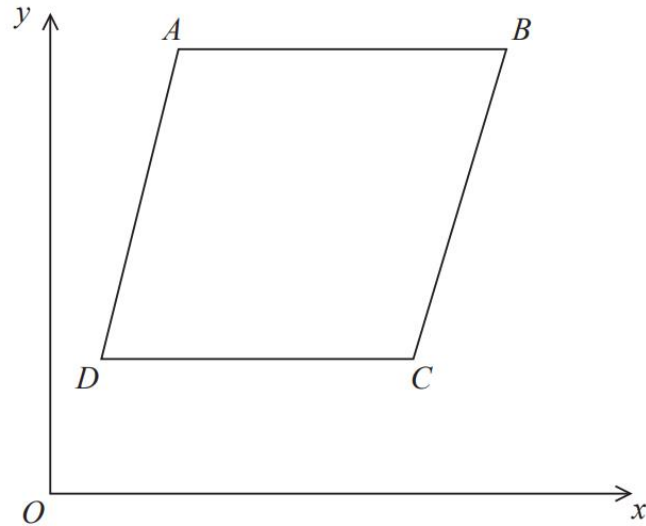
$ABCD$ is a rectangle.

A , E and B are points on the straight line L with equation $x + 2y = 12$
 A and D are points on the straight line M .

$$AE = EB$$

Find an equation for M .

6.



$ABCD$ is a rhombus.

The coordinates of A are $(5, 11)$

The equation of the diagonal DB is $y = \frac{1}{2}x + 6$

Find an equation of the diagonal AC .

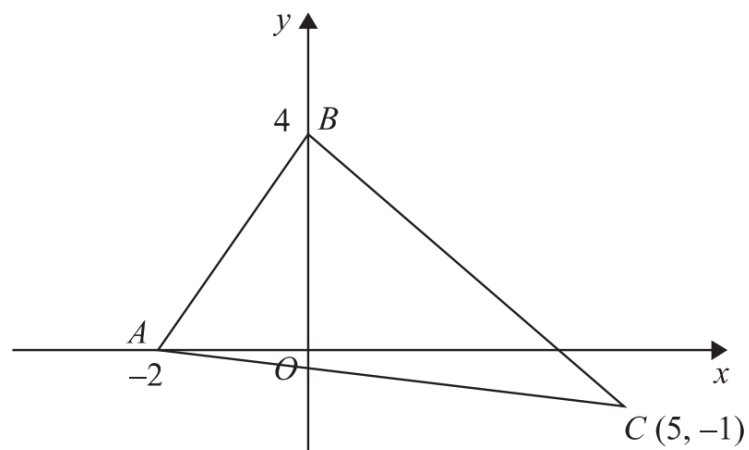
7.

The equation of the line L_1 is $y = 3x - 2$

The equation of the line L_2 is $3y - 9x + 5 = 0$

Show that these two lines are parallel.

8.



Find an equation of the line that passes through C and is perpendicular to AB .

9.

$A(-2, 1)$, $B(6, 5)$ and $C(4, k)$ are the vertices of a right-angled triangle ABC .
Angle ABC is the right angle.

Find an equation of the line that passes through A and C .

Give your answer in the form $ay + bx = c$ where a , b and c are integers.