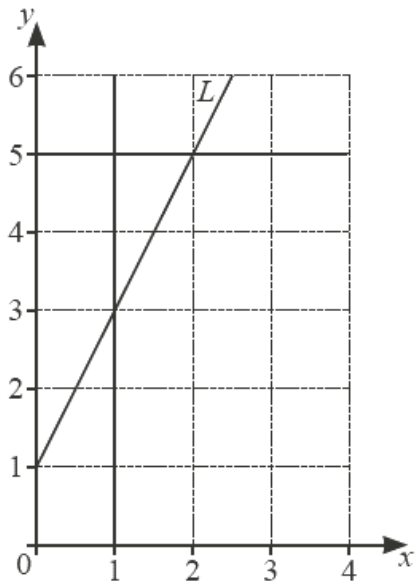
Coordinate geometry – 2022 O Level Math D 4024

1. Nov/2022/Paper_4024/11/No.16



(a) Find the gradient of the line L.

..... [1]

(b) The shaded region on the diagram is defined by three inequalities.

Write down these three inequalities.

.....

.....

..... [3]

2. Nov/2022/Paper_4024/12/No.16

P is the point $(-2, 1)$ and Q is the point $(6, 13)$.
M is the midpoint of the line PQ.

(a) Find the coordinates of M.

(..... , ...) [1]

(b) **(i)** Find the gradient of the line PQ.

..... [2]

(ii) Write down the gradient of a line that is perpendicular to the line PQ.

..... [1]

3. Nov/2022/Paper_4024/21/No.6(b)

(b) P is the point $(r, 4)$ and Q is the point (t, u).

The midpoint of line PQ is $(1, 3)$.

The gradient of line PQ is $-\frac{1}{4}$.

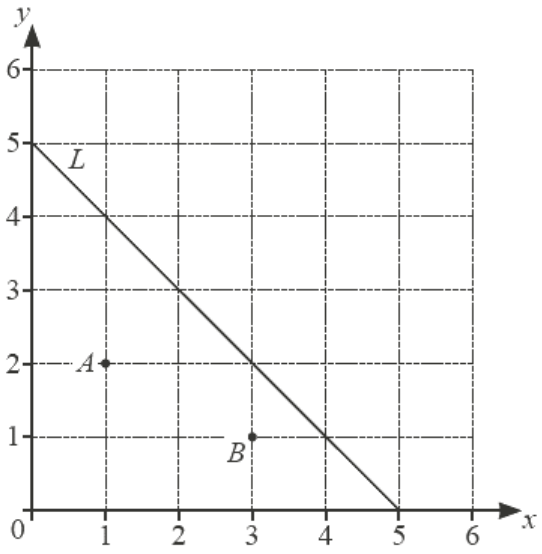
Find the value of each of r, t and u.

$r =$ .....

$t =$ .....

$u =$ ..... [4]

4. June/2022/Paper_4024/12/No.3

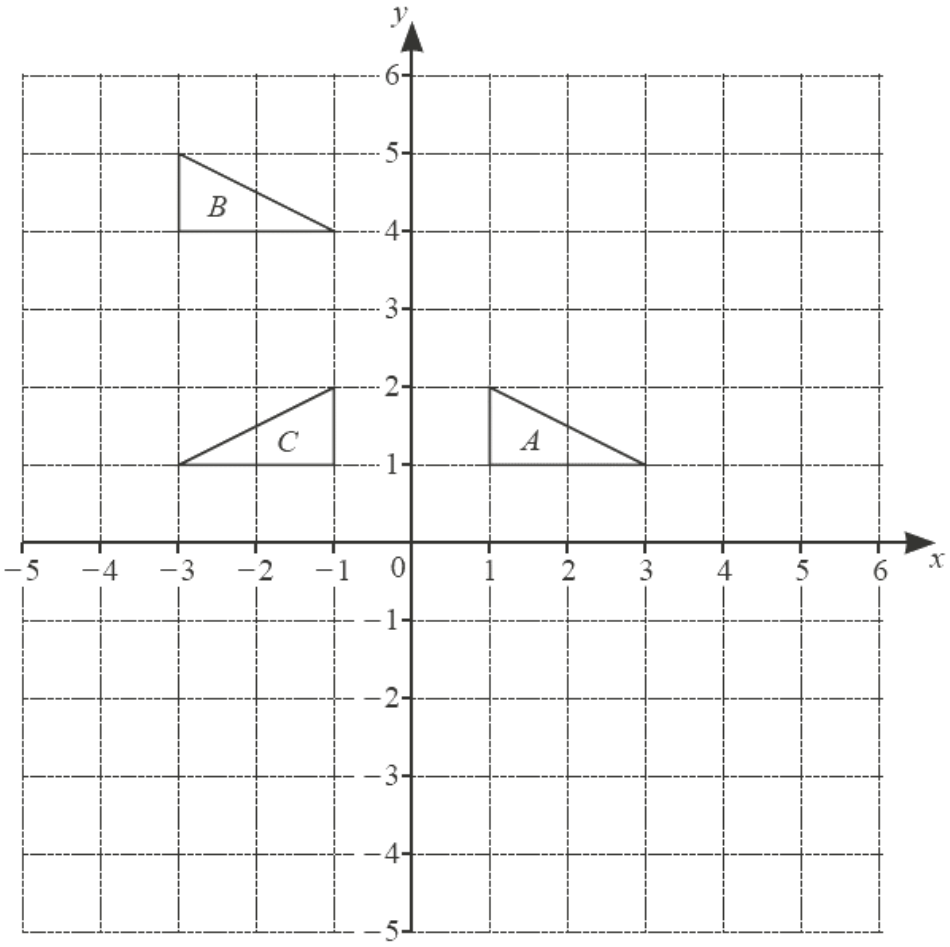


A and B are vertices of a quadrilateral.
Line L is the line of symmetry of the quadrilateral.

Find the coordinates of the other two vertices of the quadrilateral.

(..... , ...) and (..... , ...) [2]

5. June/2022/Paper_4024/21/No.11



The diagram shows triangles A, B and C.

(a) Describe fully the **single** transformation that maps triangle A onto triangle B.

..... [2]

(b) Find the matrix representing the transformation that maps triangle A onto triangle C.

$\begin{pmatrix} & \\ & \end{pmatrix}$ [1]

(c) Triangle A is mapped onto triangle D by an enlargement with centre (2, 3) and scale factor 3.

Draw triangle D. [2]

6. June/2022/Paper_4024/22/No.10

D is the point $(4, 6)$ and E is the point (e, e).

(a) The length of DE is $\sqrt{20}$.

Form an equation in e and solve it to find the possible coordinates of E.
Show your working.

(..... , ...) or (..... , ...) [5]

(b) F is the point $(-f,\ 5f)$.

The gradient of the perpendicular bisector of DF is $\frac{3}{2}$.

(i) Find the value of f.

$f =$ ..... [4]

(ii) The equation of the perpendicular bisector of DF is $2y = 3x + k$.

Find the value of k.

$k =$ ..... [3]