

Coordinate Geometry

Question Paper 7

Level	International A Level
Subject	Maths
Exam Board	CIE
Topic	Coordinate Geometry
Sub Topic	
Booklet	Question Paper 7

Time Allowed: 48 minutes

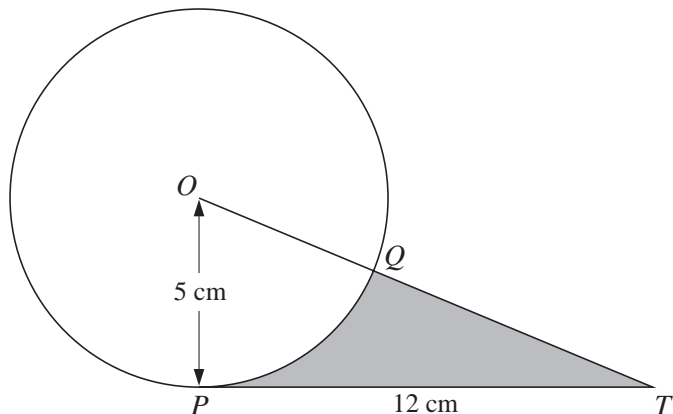
Score: /40

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	77.5%	70%	62.5%	57.5%	45%	<45%

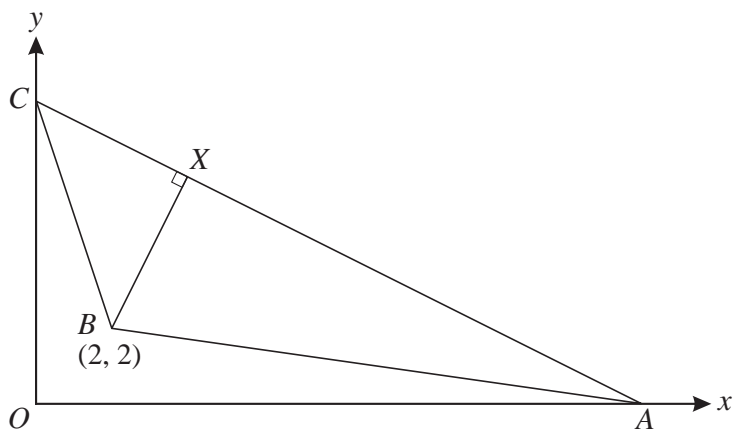
1



The diagram shows a circle with centre O and radius 5 cm. The point P lies on the circle, PT is a tangent to the circle and $PT = 12$ cm. The line OT cuts the circle at the point Q .

- (i) Find the perimeter of the shaded region. [4]
- (ii) Find the area of the shaded region. [3]

2



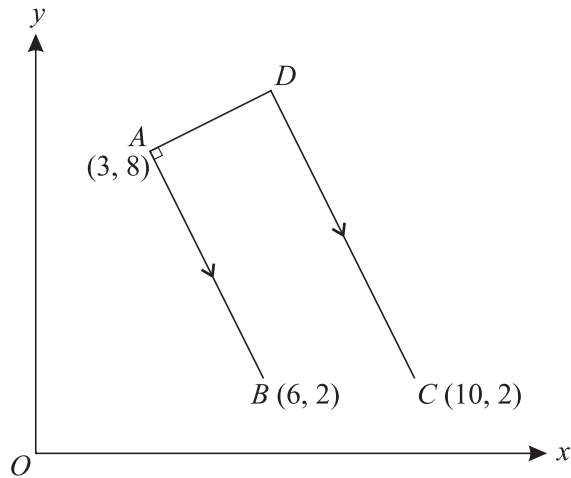
In the diagram, the points A and C lie on the x - and y -axes respectively and the equation of AC is $2y + x = 16$. The point B has coordinates $(2, 2)$. The perpendicular from B to AC meets AC at the point X .

- (i) Find the coordinates of X . [4]

The point D is such that the quadrilateral $ABCD$ has AC as a line of symmetry.

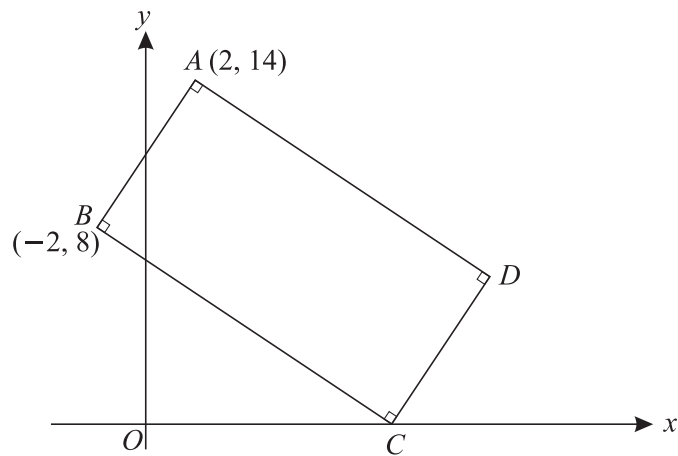
- (ii) Find the coordinates of D . [2]
- (iii) Find, correct to 1 decimal place, the perimeter of $ABCD$. [3]

3



The three points $A(3, 8)$, $B(6, 2)$ and $C(10, 2)$ are shown in the diagram. The point D is such that the line DA is perpendicular to AB and DC is parallel to AB . Calculate the coordinates of D . [7]

4

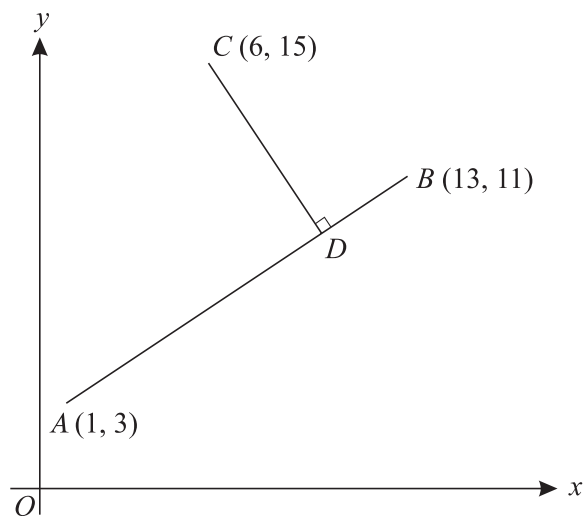


The diagram shows a rectangle $ABCD$. The point A is $(2, 14)$, B is $(-2, 8)$ and C lies on the x -axis. Find

(i) the equation of BC , [4]

(ii) the coordinates of C and D . [3]

5



The three points $A(1, 3)$, $B(13, 11)$ and $C(6, 15)$ are shown in the diagram. The perpendicular from C to AB meets AB at the point D . Find

(i) the equation of CD , [3]

(ii) the coordinates of D . [4]

6 A curve has equation $y = \frac{k}{x}$. Given that the gradient of the curve is -3 when $x = 2$, find the value of the constant k . [3]