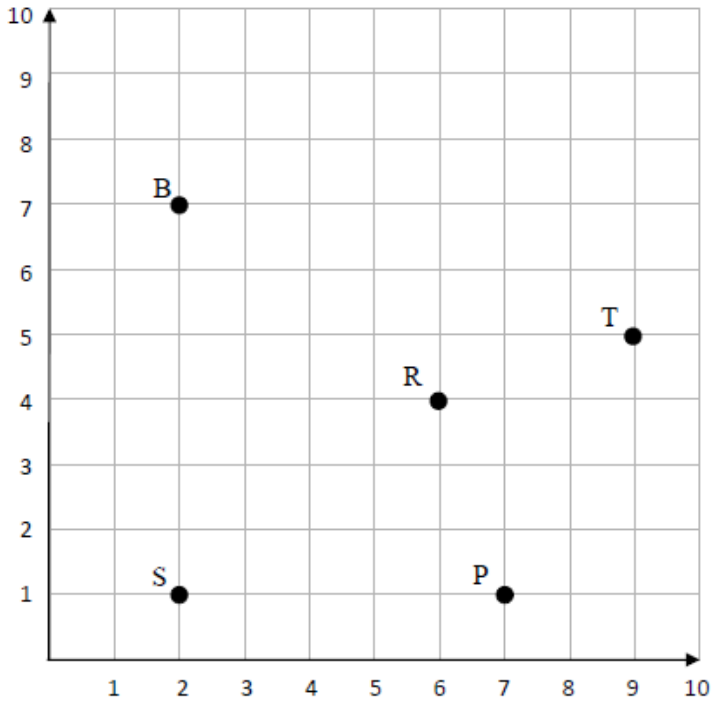
Maths
Junior Certificate
Ordinary Level

Past Exam Questions on PM Co-ordinate Geometry

Q11 2013 Paper 2 Section A

Question 11 **(suggested maximum time: 10 minutes)**

An archaeologist has discovered various items at a site. The site is laid out in a grid and the position of each item is shown on the grid. The items found are a brooch (B), a plate (P), a ring (R), a statue (S) and a tile (T).



(a) Write down the co-ordinates of the position of each item.

B = (2 , 7)

P = (,)

R = (,)

S = (,)

T = (,)

(b) Each square of the grid represents 1 m^2.
Find the total area of the grid.

(c) Which of the items is nearest to the tile (T)?

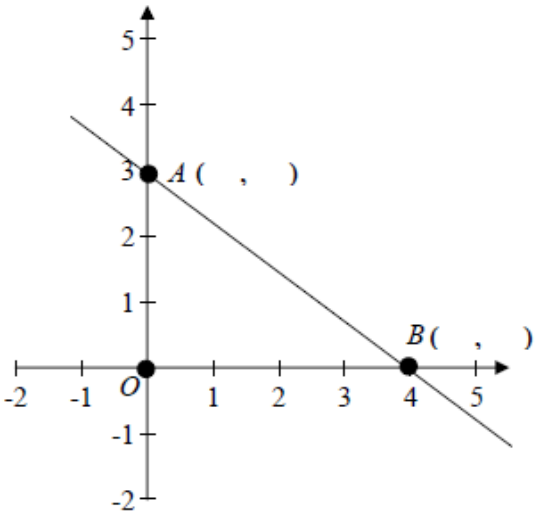
(d) Find the distance between the brooch (B) and the statue (S).

(e) What is the slope of the line from the plate (P) to the brooch (B)?

Q15 2012 Paper 2 Section 1 Sample Paper

Question 15 **(Suggested maximum time: 5 minutes)**

(a) Write down the coordinates of the point A and the point B on the diagram.



(b) Use the distance formula to find $|AB|$

(c) Write down the distance from O to A and the distance from O to B.

$|OA| =$

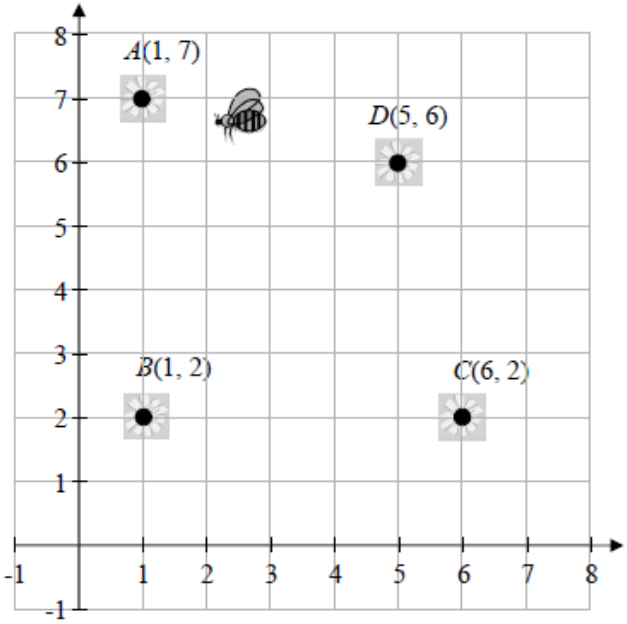
$|OB| =$

(d) Use the theorem of Pythagoras to find the length of the hypotenuse of the triangle OAB.

Q16 2012 Paper 2 Section 1 Sample Paper

Question 16 **(Suggested maximum time: 5 minutes)**

A computer game shows the location of four flowers $A(1, 7)$, $B(1, 2)$, $C(6, 2)$, and $D(5, 6)$ on a grid. The object of the game is to collect all the nectar from the flowers in the shortest time.



(a) A bee found a hidden flower half way between flower B and flower D.
Find the coordinates of this hidden flower.

(b) Another flower E can be located by completing the square $ABCE$. Write down the coordinates of the point E.

$E =$ _____

(c) Bee 1 and Bee 2 are on flower A. Bee 1 flies directly from flower A to B and then on to C. Bee 2 flies from flower A directly to D and then on to C. Write down which bee has travelled the shortest distance giving a reason for your answer.

Answer: _____

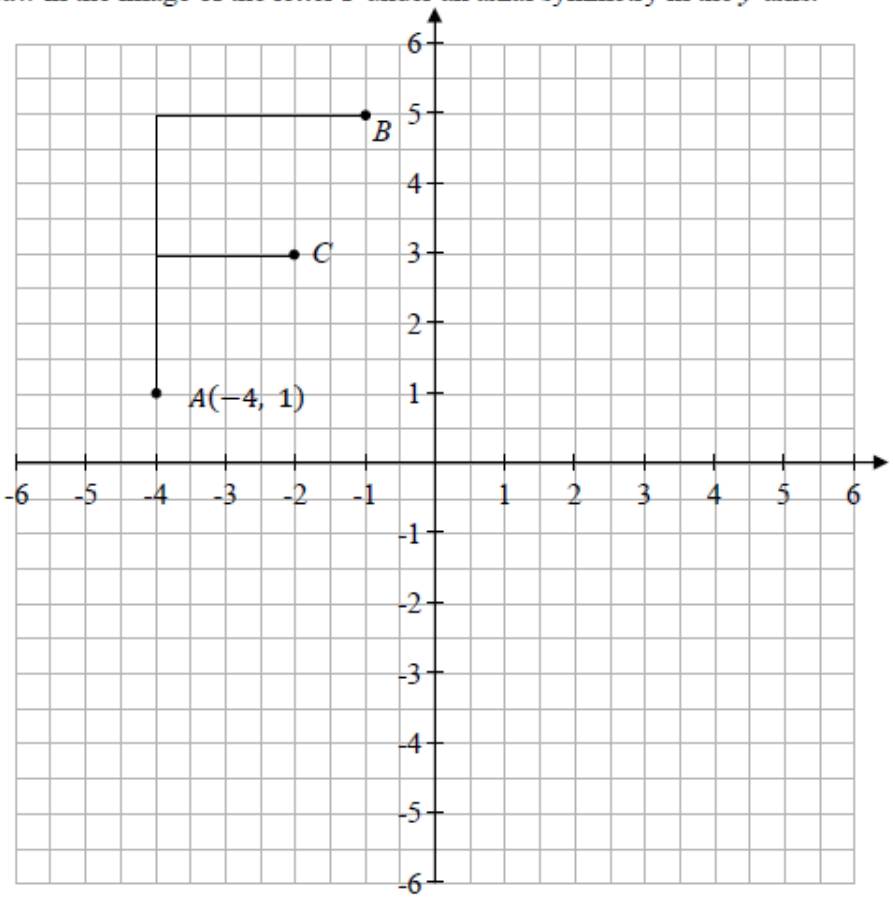
Reason:

Q10 2012 Paper 2

Question 10 **(suggested maximum time: 5 minutes)**

The diagram below shows the letter F on the co-ordinate plane.

(a) Draw in the image of the letter F under an axial symmetry in the y-axis.



(b) Write down the coordinates of the points B and C.

B (,) C (,)

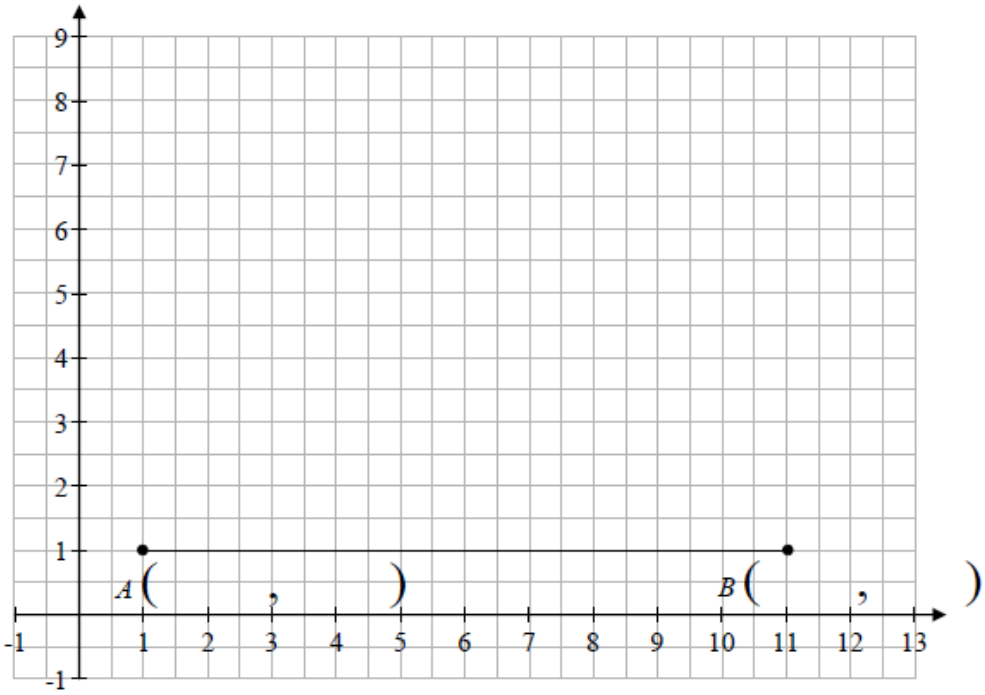
(c) A, B and C are mapped onto A', B' and C' under the transformation above. Write down the co-ordinates of A', B' and C'.

A' (,) B' (,) C' (,)

Q14 2012 paper 2

Question 14 **(suggested maximum time: 10 minutes)**

(a) Write down the coordinates of point A and point B on the diagram.



(b) Mark in the point $D(6, 8)$ on the diagram.

(c) Find the co-ordinates of C, the midpoint of $[AB]$.

(d) Join A to D. Join B to D. Join C to D.

(e) Use the distance formula to find $|AD|$ and $|BD|$.

(f) What type of triangle is *ABD*? Give a reason for your answer.

Type:

Reason:

(g) State whether the triangles *ACD* and *BCD* are congruent. Give a reason for your answer.

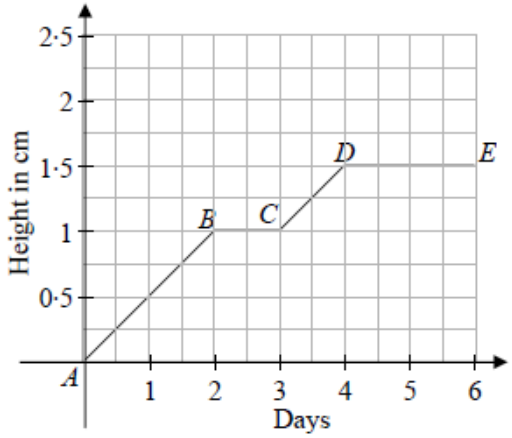
Answer:

Reason:

Q

Question 15 **(suggested maximum time: 10 minutes)**

The height of a watercress seedling over six days is shown in the diagram below.



(a) The plant grows steadily between A and B. It does not grow during two periods. Identify these two periods from the graph.

Period 1:

Period 2:

(b) Find the slope of AB =

(c) Find the slope of CD =

(d) Janet says that the seedling grows at the same rate in the two growing periods. Do you agree with Janet? Give a reason for your answer.

Answer:

Reason:

(e) Describe the growth of the seedling over the six days.