



PHYSICS

BOOKS - CBSE MODEL PAPER

CASE STUDY BASED QUESTION

Part A Section Iii



Sprint events in track and field usually consists of the 100 m, 200 m and 400 m race though 60 m dashes are also held on occasion. These races are largely based upon the athlete's ability to accelerate to his or her maximum speed in the quickest time possible.

1.

Girish wants to participate in the 200m Sprint.

He can currently run that distance in 45 sec.

But he wants to do that in under 30sec. With

each day of practice, it takes him 2 sec less.

Respond to the above situation by answering

the questions given below

Which of the following forms an A.P for the

above given situation

A. 45, 90,180,....

B. 45, 47, 49,.....

C. 45, 43, 41,....

D. $-45, -47, -48, \dots$

Answer: C

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2.

Girish wants to participate in the 200m Sprint.

He can currently run that distance in 45 sec.
But he wants to do that in under 30sec. With
each day of practice, it takes him 2 sec less.
Respond to the above situation by answering
the questions given below

Which of following term is not in the A.P of the
above given situation.

A. 31

B. 30

C. 29

D. 27

Answer:



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3. If x, y, z are in A.P then $\frac{x - y}{y - z}$ is equal to

_____ -

A. $\frac{1}{2}$

B. 2

C. 1

D. 0

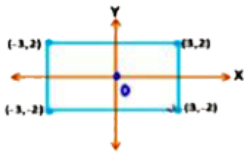
Answer: C



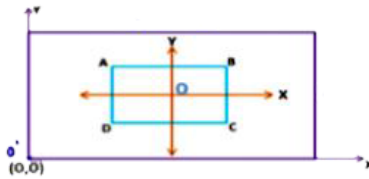
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4. Suresh has a rectangular sketch, which he needs to draw on a paper of length and breadth 32 units and 16 units respectively, using a plotter. Plotter is a device which is attached to a computer like a printer. It is used for drawing complicated sketches. Plotter accepts only positive coordinates where the point $(0,0)$ is the left-bottom corner of the

paper. The sketch ABCD needs to be centrally aligned on the paper. Find the coordinates of A, B, C and D to be plotted to get the sketch plotted as needed.



(Sketch 1)



(Sketch 2)

The coordinates of point O in the sketch 2 is _____

A. (0, 0)

B. (16, 8)

C. (8, 16)

D. (16, 32)

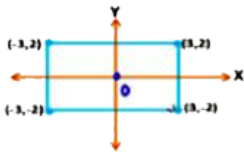
Answer:



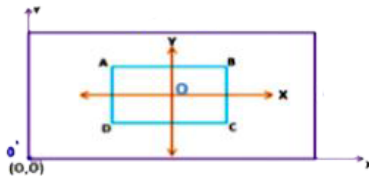
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5. Suresh has a rectangular sketch, which he needs to draw on a paper of length and breadth 32 units and 16 units respectively, using a plotter. Plotter is a device which is attached to a computer like a printer. It is used for drawing complicated sketches. Plotter

accepts only positive coordinates where the point $(0,0)$ is the left-bottom corner of the paper. The sketch ABCD needs to be centrally aligned on the paper. Find the coordinates of A, B, C and D to be plotted to get the sketch plotted as needed.



{ Sketch 1 }



{ Sketch 2 }

The coordinates of A, B, C, D are:

A. $(32, 10)$, $(32, -10)$, $(32, 6)$, $(32, -6)$

B. $(19, 10)$, $(19, -10)$, $(13, 6)$, $(13, -6)$

C. $(13, 10)$, $(19, 10)$, $(19, 6)$, $(13, 6)$

D.

$(13, -10)$, $(19, 10)$, $(13, -6)$, $(19, -6)$

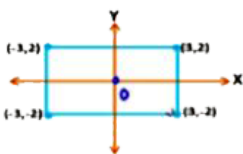
Answer:



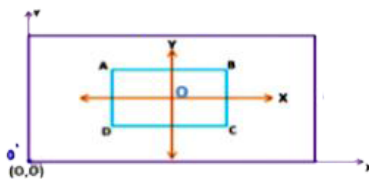
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6. Suresh has a rectangular sketch, which he needs to draw on a paper of length and breadth 32 units and 16 units respectively, using a plotter. Plotter is a device which is

attached to a computer like a printer. It is used for drawing complicated sketches. Plotter accepts only positive coordinates where the point $(0,0)$ is the left-bottom corner of the paper. The sketch ABCD needs to be centrally aligned on the paper. Find the coordinates of A, B, C and D to be plotted to get the sketch plotted as needed.



{ Sketch 1 }



{ Sketch 2 }

In the sketch 2, if the point O divides \overline{AC} in the ratio $k: 1$, then the value of k is _____

A. 2

B. 1

C. $\frac{1}{2}$

D. 3

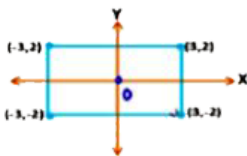
Answer:



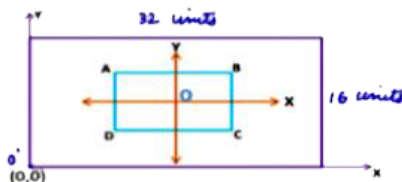
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using a plotter. Plotter is a device which is attached to a computer like a printer. It is used for drawing complicated sketches. Plotter accepts only positive coordinates where the point $(0,0)$ is the left-bottom corner of the paper. The sketch ABCD needs to be centrally aligned on the paper. Find the coordinates of A, B, C and D to be plotted to get the sketch plotted as needed.



{ Sketch 1 }



{ Sketch 2 }

The point on the x-axis (in sketch 2) which is equidistant from the points C and D is _____

A. $(0, -16)$

B. $(16,0)$

C. $(-16, 0)$

D. $(0, 16)$

Answer:



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