# AllCanMath

# **CLASS 10 MATH TEST PAPER 11**

## **Class 10 - Mathematics**

Time All	owed: 40 minutes		Maximum Marks: 25
Section A			
1.	The quadratic equation $ax^2 + 2x + a = 0$ has two distinct roots, if		
	a) a = ± 1	b) a = 0	
	c) a = 0, 1	d) 0 = - 1, 0	
2.	$9x^2 + 12x + 4 = 0$ have		[1]
	a) Real and Distinct roots	b) No real roots	
	c) Distinct roots	d) Real and Equal roots	
3.	The next $\left(4^{ ext{th}} ight)$ term of the A.P. $\sqrt{18},\sqrt{50},\sqrt{98}$ ,	[1]	
	a) $\sqrt{140}$	b) $\sqrt{162}$	
	c) $\sqrt{128}$	d) $\sqrt{200}$	
4.	In the given figure, $\angle A = \angle C$ , $AB = 6$ cm, $AP = 12$ c	[1]	
	Å		
	E K	<b>D</b> <sup>*</sup>	
	a) 18 cm	b) 2 cm	
	c) 8 cm	d) 6 cm	
5.	If the distance between the points $(3, -5)$ and $(x, -5)$ is 15 units, then the values of x are:		[1]
	a) -9, -12	b) 12, -18	
	c) 18, 5	d) -12, 18	
6.	<b>Assertion (A):</b> Common difference of the A.P. 5, 1, -3, -7 is 4.		[1]
<b>Reason (R):</b> Common difference of the A.P. $a_1$ , $a_2$ , $a_3$ an is obtained by $d = a_n - a_{n-1}$ .			
	a) Both A and R are true and R is the correct	b) Both A and R are true but R is not	the
	explanation of A.	correct explanation of A.	
	c) A is true but R is false.	d) A is false but R is true.	
Section B			
7.	In the given figure, $\frac{BC}{BD} = \frac{BC}{AC}$ and $\angle ABD = \angle AC$	[2]	



8. The line AB intersects x-axis at A and y-axis at B. The point P(2, -3) lies on AB such that AP : PB = 3 : 1. Find [2] the co-ordinates of A and B.



#### Section C

- A dealer sells an article for ₹ 75 and gains as much per cent as the cost price of the article. Find the cost price of [3] the article.
- 10. ABCD is a trapezium with AB || DC. E and F are two points on non-parallel sides AD and BC respectively, such [3] that EF is parallel to AB. Show that  $\frac{AE}{ED} = \frac{BF}{FC}$



#### Section D

11. Read the following text carefully and answer the questions that follow:

The top of a table is hexagonal in shape.



[4]

On the basis of the information given above, answer the following questions:

- i. Write the coordinates of A and B.
- ii. Write the coordinates of the mid-point of line segment joining C and D.
- iii. a. Find the distance between M and Q.

### OR

b. Find the coordinates of the point which divides the line segment joining M and N in the ratio 1:3 internally.

### Section E

12. A spiral is made up of successive semicircles, with centres alternately at A and B, starting with centre at A, of [5] radii 0.5 cm, 1.0 cm, 1.5 cm, 2.0 cm, ... as shown in Figure. What is the total length of such a spiral made up of thirteen consecutive semicircles? ( $Take \ \pi = \frac{22}{7}$ )

[**Hint:** Length of successive semicircles is l<sub>1</sub>, l<sub>2</sub>, l<sub>3</sub>, l<sub>4</sub>, ... with centres at A, B, A, B, ... respectively.]

 $\overline{l_2}$  $I_4$ MAN .