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CLASS 10 MATH TEST PAPER 10 (MCQ)

Class 10 - Mathematics

Time Allowed: 40 minutesMaximum Marks: 20					
1.	If one zero of the polynomial $(3x^2 + 8x + k)$ is the rec	iprocal of the other, then value of k is	[1]		
	a) $-\frac{1}{3}$	b) 3			
	c) -3	d) $\frac{1}{3}$			
2.	If one of the zeroes of the quadratic polynomial $14x^2$	- $42k^2x$ - 9 is negative of the other, then the value of k is	[1]		
	a) 3	b) 0			
	c) 1	d) 2			
3.	If α and β are the zeroes of the polynomial $ax^2 + bx + b$	+ c, then the value of $\frac{1}{\alpha} + \frac{1}{\beta}$ is	[1]		
	a) $\frac{b}{a}$	b) $\frac{b}{c}$			
	c) $\frac{-b}{c}$	d) $\frac{c}{a}$			
4.	$\left(\frac{1}{\tan^2\theta}-\frac{1}{\sin^2\theta}\right)$ is equal to:		[1]		
	a) -1	b) $\sec^2 \theta$			
	c) $\sin^2 \theta$	d) 1			
5.	If $\sin \theta = \frac{1}{3}$, then sec θ is equal to:		[1]		
	a) $\frac{3}{2\sqrt{2}}$	b) $\frac{1}{\sqrt{3}}$			
	c) 3	d) $\frac{2\sqrt{2}}{3}$			
6.	If $\cos(lpha+eta)=0$, then value of $\cos\left(rac{lpha+eta}{2} ight)$ is equa	l to:	[1]		
	a) $\sqrt{2}$	b) $\frac{1}{\sqrt{2}}$			
	c) $\frac{1}{2}$	d) 0			
7.	A solid spherical ball fits exactly inside the cubical be	ox of side 2a. The volume of the ball is	[1]		
	a) $\frac{1}{6}\pi a^3$	b) $\frac{4}{3}\pi a^3$			
	c) $\frac{16}{3}\pi a^3$	d) $\frac{32}{3}\pi a^3$			
8.	A solid sphere is cut into two hemispheres. The ratio	of the surface areas of sphere to that of two hemispheres	[1]		
	taken together, is:				
	a) 3 : 2	b) 1 : 1			
	c) 2 : 3	d) 1:4			
9.	A sphere of diameter 18 cm is dropped into a cylindri	cal vessel of diameter 36 cm, partly filled with water. If the	[1]		
	sphere is completely submerged then the water level i	ises by			

b) 5 cm

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c) 3 cm

d) 6 cm

•	Find the value of p, if the mean of the following data is 20.					[1]	
	x _i	15	17	19	20 + p	23	
	f _i	2	3	4	5р	6	
	a) 2	· · · · · ·		b) 4		,	
	c) 10			d) 1			
•	If the mean and	d mode of a data	are 24 and 12 re	espectively, then	its median is:		[1]
	a) 18			b) 25			
	c) 20			d) 22			
	If the mean of	6, 7, x, 8, y, 14 i	s 9, then:				[1]
	a) x - y = 2	1		b) x + y	= 19		
	c) x + y = 2	21		d) x - y	= 19		
	The distance b	etween two para	llel tangents of a	circle of diamet	ter 7 cm is:		[1]
	a) 14 cm			b) 28 cn	n		
	c) 7 cm			d) $\frac{7}{2}$ cm	r		
	A chord of a ci	ircle of radius 10	cm subtends a r	ight angle at its	centre. The length of the cho	ord (in cm) is:	[1]
	$\begin{array}{c} 0\\ 10 \text{ cm} \\ \text{A}\\ \text{a)} \frac{5}{\sqrt{2}} \end{array}$	B		b) 10√3	3		
	() $5\sqrt{2}$			d) 10√2	$\overline{2}$		
	In the given fig	gure, the perimet	er of $\triangle ABC$ is:	c) 20 V -	-		[1]
	B	P 4 c	de C m m C				
	a) 15 cm			b) 30 cn	n		
	c) 60 cm			d) 45 cn	n		
	Assertion (A)	: Polynomial x ²	+ 4x has two rea	l zeroes.			[1]
	Reason (R): Z	Zeroes of the poly	$x^2 + ax$	(a $ eq$ 0) are 0 and	d a.		
	a) Both A a	and R are true and	d R is the correc	t b) Both	A and R are true but R is no	t the	

explanation of A.

correct explanation of A.

c) A is true but R is false. d) A is false but R is true. [1] **Assertion (A):** For $0 < \theta \le 90^{\circ}$, cosec θ - cot θ and cosec θ + cot θ are reciprocal of each other. 17. **Reason (R):** $\csc^2\theta - \cot^2\theta = 1$. a) Both A and R are true and R is the correct b) Both A and R are true but R is not the correct explanation of A. explanation of A. c) A is true but R is false. d) A is false but R is true. 18. Assertion (A): Two identical solid cubes of side a are joined end to end. Then the total surface area of the [1] resulting cuboid is $10 a^2$. **Reason (R):** The total surface area of a cube having side $a = 6 a^2$.

a) Both A and R are true and R is the correct explanation of A.

b) Both A and R are true but R is not the correct explanation of A.

c) A is true but R is false. d) A is false but R is true.

19. **Assertion (A):** The arithmetic mean of the following given frequency distribution table is 13.81.

Х	4	7	10	13	16	19
f	7	10	15	20	25	30
$\sum f_i x_i$						

Reason (R): $\bar{x} = \frac{\sum f_i x_i}{\sum f_i}$

a) Both A and R are true and R is the correctb) Both A and R are true but R is not thecorrect explanation of A.

c) A is true but R is false.

d) A is false but R is true.

20. **Assertion (A):** In the given figure, XA + AR = XB + BR, where XP, XQ and AB are tangents.



Reason (R): A tangent to the circle can be drawn from a point inside the circle.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.

c) A is true but R is false.

d) A is false but R is true.

[1]

[1]