MATHS

BOOKS - CAMBRIDGE MATHS (KANNADA ENGLISH)

PRACTICE QUESTION PAPER 12

Mcqs

1. The pair of linear equations $3a+4b=k$, $9a+12b=6$ have infinitely many solutions when,

A. k=-2

B. k=3

C. k=2

D. k=-3

Answer:

2. $n^2 - 1$ is divisible by 8, if n is

A. Prime numbers

B. Odd integer

C. Even integer

D. Natural number

Answer:

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3. $\sqrt{1 + \tan^2 \theta}$ = _____, where $0 < \theta < 90°$

A. $\sec \theta$

B. $\cos ec\theta$

C. $\cos \theta$

D. $\sin \theta$

Answer:

4. If Q divides the line A(3,5) and B(7,9) internally in the ratio 2:3 , then the co-ordinates of Q are .

A. $\left(\dfrac{33}{5}, \dfrac{23}{5} \right)$

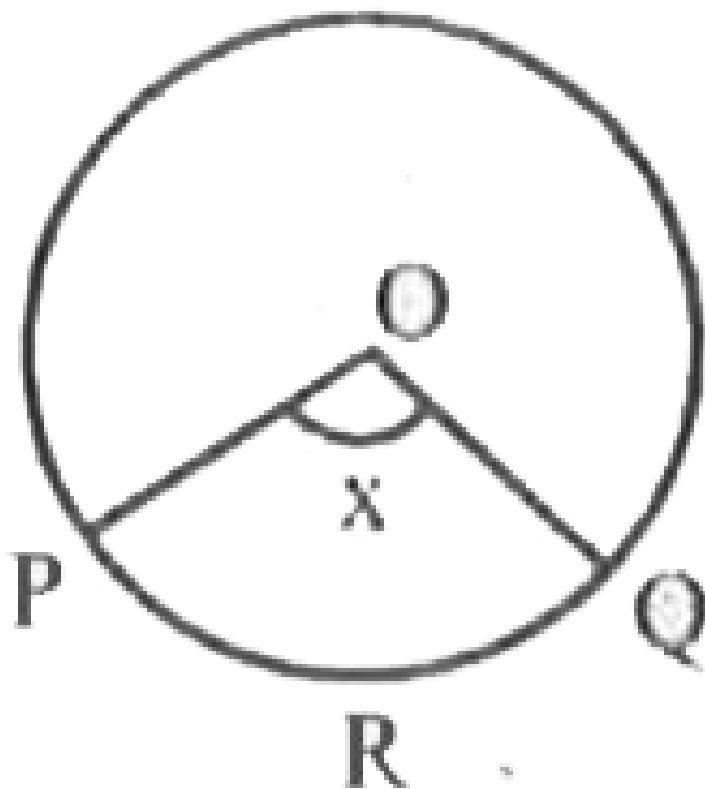B. $\left(-\dfrac{23}{5}, \dfrac{33}{5} \right)$

C. $\left(\dfrac{23}{5}, \dfrac{33}{5} \right)$

D. $\left(-\dfrac{33}{5}, \dfrac{23}{5} \right)$

Answer:

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5.

If Area of the sector OPRQ $= \dfrac{5}{18}$ of Area of

circle. Then the value of x .

A. $25°$

B. 50°

C. 75°

D. 100°

Answer:

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6. If 1+2 + 3+.....n terms = 28 , then n is equal to

A. 28

B. 7

C. 8

D. 56

Answer:

7. If we express sec A in terms of sin A, then sec

A is equal to

A. $\dfrac{1}{\sqrt{1 - \sin^2 A}}$

B. $\dfrac{1}{\sqrt{1 + \sin^2 A}}$

C. $\dfrac{1}{\sqrt{1 - \sin A}}$

D. $\dfrac{1}{\sqrt{1 + \sin A}}$

Answer:

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Answer The Following Question

1. If the product of zeroes of polynomial f(y) $= ay^3 - 6y^2 + 11y - 6$ is 4 then find the value of 'a'.

2. What is the value of C, if $ax^2 + bx + c = 0$ has equal roots ?

3. Find the second term if sum of the 'n' tem of an AP is $2n^2 + 1$.

4. State converse of Pythagoras Theorem.

5. What is the $\dfrac{p}{q}(p,\, q \in z,\, q \neq 0)$ form of $0.5\overline{7}$?

6. If $\sin\theta = \dfrac{1}{3}$, then find the value of $\left(2\cot^2\theta + 2\right)$

7. In $\sin(A + B) = \dfrac{\sqrt{3}}{2}$ and $\cos$ (A-B)=1, $0 < A + B < 90°$, $A \geq B$.

8. The surface area of a sphere is same as the C.S.A of a right circular cylinder whose height and diameter are 4 cm each. Find the radius of the sphere.

9. Prove that if x and y are odd positive integers , then $x^2 + y^2$ is even but not divisible by 4.

10. Solve : $100x + 200y = 700$

$200x + 100y = 800$

11. Find the roots of the quadratic equation $3x^2 - 2\sqrt{6}x + 2 = 0$ by formula method.

12. Find the value of x in which the points (1,-1) (x,1) and (4,5) are collinear.

13. ABC is a right angle triangle having $\angle B = 90°$. If BD=DC, show that

$$AC^2 = 4AD^2 - 3AB^2$$

14. Prove that ara of the equilateral triangle described on the sides of square is half the area of the equilateral triangle described on its diagonal.

15. A box contains 90 dices which are numbered from 1 to 90. If one dise is drawn at random from the box, find the probability that it bears

i) two digit number

ii) a perfect square number.

16. Draw a pair of tangents to a circle of radius 5 cm which are inclined to each other at an

angle of $60°$.

17. Prove that $\dfrac{\tan\theta + \sin\theta}{\tan\theta - \sin\theta} = \dfrac{\sec\theta + 1}{\sec\theta - 1}$

18. Asha is 5 times as old as her daughter Usha, 5 years later Asha will be 3 times as old as her daughter Usha. Find the present ages of Asha and Usha.

19. The sum of 2 digits of a 2 digits number is 12 the number obtained by interchangeing the digits exceeds by the given number by 18. Find the number.

20. Find the other two zeroes of the polynomial $y^4 + y^3 - 9y^2 - 3y + 18$ if the

zeroes are $\sqrt{3}$ and $-\sqrt{3}$

21. Solve for x . $\dfrac{1}{a + b + x} = \left(\dfrac{1}{a} + \dfrac{1}{b} + \dfrac{1}{x} \right)$

(Where $a \neq 0, b \neq 0, x \neq 0, x \neq -(a + b)$

22. The diagonal of a rectangular filed is 60

meters more than the shorter side. If the

longer side is 30 meters more than the shorter side, find the side of the field.

23. If the points (7,-2) , (5,1) and (3,5) are collinear. Find the value of k.

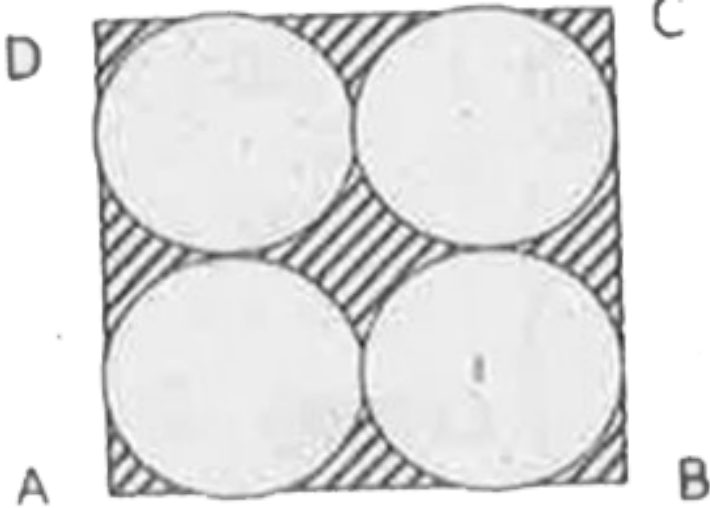**24.** Find the area of Rhombus if its vertices are (3,0) (4,5) (-1,4) and (-2,-1) taken in order.

25. Prove the tangents drawn from an external point to a circle are equal.

26. Find the area of the shaded region in the figure, where ABCD is a square of side 14 cm

27. The distribution below gives the weights of 30 students of a class. Find the median weight of the students.

Weight (in kg)	40-45	45-50	50-55	55-60	60-65	65-70	70-75
No. of students	2	3	8	6	6	3	2

28. Solve graphically :

$2x - y = 2$ and $4x - y = 4$

29. If the sum of first 7 terms of an A.P is 49 and that of 17 terms is 289, find the sum of first n terms.

30. The sum of the third and seventh terms of an AP is 6 and their product is 8 find the sum of first sixteen terms of the A.P.

31. A person, walking 20 mts from a point towards a flagpost along a horizontal passing through its base, observes that its angle of elevation changes from $30°$ to $45°$ Find the height of the flagpost.

32. In a right angled triangle , square on the hypotenuse is equal to sum of the squares on the other sides. Prove the statement.