



MATHS

BOOKS - CAMBRIDGE MATHS

(KANNADA ENGLISH)

MOST LIKELY QUESTION PAPER 9

I In The Following Questions Four Choices Are Given For Each Question Choose And Write The Correct Answer Along With Its Alphabet

1. For some integer n every odd integer is of the form

A. $2n + 1$

B. $n + 1$

C. $2n$

D. n

Answer: A::B



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2. The value of

$\sin^2 15^\circ + \sin^2 25^\circ + \sin^2 65^\circ + \sin^2 75^\circ$ is

A. 0

B. 1

C. 2

D. 3

Answer: B



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3. If chord AB subtends an angle 50° at the centre of a circle then the angle between the tangents at A and B is

A. 40°

B. 100°

C. 130°

D. 120°

Answer: A::C



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4. The formula used to find the volume of a sphere

A. $\frac{4}{3}\pi r^3$

B. $\frac{2}{3}\pi r^3$

C. $\frac{1}{3}\pi r^3$

D. πr

Answer: C::D



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5. $\alpha + \beta$ are the zeroes of the polynomial $x^2 - 6x + 4$, then the value of $\frac{(\alpha + \beta)^2 - 2\alpha\beta}{\alpha\beta}$ is

A. 7

B. 8

C. -7

D. -8

Answer:



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6. If 29th term of an A.P is twice its 19th term,
then the 9th term is

A. -1

B. 0

C. 1

D. 2

Answer:



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7.

In

ΔABC , $AB = 6\sqrt{3}cm$, $AC = 12cm$, $BC = 6cm$

, The angle B is

A. 45°

B. 90°

C. 60°

D. 30°

Answer:



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8. If the probability of an event is $P(A)$ then the probability of its complimentary event will be

A. $1 + P(A)$

B. $1 - P(A)$

C. $P(A) - 1$

D. $\frac{1}{P(A)}$

Answer: A



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ii Answer The Following Questions

1. If α and β are the zeroes of the quadratic polynomial $2 - 3x - x^2$ then what is the value of $\alpha + \beta + \alpha\beta$?

A.

B.

C.

D.

Answer: -5



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2. What are the roots of the quadratic equation $x^2 + (\sqrt{3} + 1)x + \sqrt{3} = 0$?

A.

B.

C.

D.

Answer: $-\sqrt{3}$



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3. If the n th terms of the two AP 9, 7, 5,and 24, 21, 18,are same. Find n .

A.

B.

C.

D.

Answer: $n = 16$



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4. Find the H.C.F. of 455 and 42 with the help of Euclid's division algorithm.

A.

B.

C.

D.

Answer: $\therefore \text{H.C.F. (455, 42)} = 7$



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5. Find θ if $\sin(\theta + 56) = \cos \theta$, where θ and $(\theta + 56)$ are less than 90° .

A.

B.

C.

D.

Answer: $\theta = 17$



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6. If $x = a \sin \theta$ and $y = b \tan \theta$, then find the

value of $\frac{a^2}{x^2} - \frac{b^2}{y^2}$

A.

B.

C.

D.

Answer: 1



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7. Calculate the height of a right circular cone where C.S.A. and base radius are 12320cm^2 and 56 cms, respectively .

A.

B.

C.

D.

Answer: $h = 14 \times 3 = 42 \text{ cm}$



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iii Answer The Following Questions

1. Show that any positive odd integer is of the form $6q+1$, or $6q+3$, or $6q+5$, where q is some integer.

A.

B.

C.

D.

Answer: $\Rightarrow 6q + 1, 6q + 3, 6q + 5$ are the

positive odd integers.



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2. Solve : $2x + 3y = 9$

$3x + 4y = 5$

A.

B.

C.

D.

Answer: $x = \frac{-42}{2} = -21$



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3. Solve : $(x - 2)^2 + 1 = 2x - 3$

A.

B.

C.

D.

Answer: $x = 4$ or $x = 2$



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4. Show that the points $(-2, 1)$ $(2, -2)$ and $(5, -2)$ are the vertices of a right angled triangle.

A.

B.

C.

D.

Answer: $\therefore \triangle ABC$ is a right angled triangle at B.



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5. The equilateral triangles are drawn on the sides of a right triangle. Show that the area of the triangle on the hypotenuse is equal to the sum of the areas of the triangles on the other two sides.

OR

In the given figure, PA, QB and RC are each

perpendicular to AC. Prove that $\frac{1}{x} + \frac{1}{z} = \frac{1}{y}$

A.

B.

C.

D.

Answer: \therefore **Area of $\triangle XAB$ + Area of $\triangle YBC =$ Area of $\triangle ZAC$**



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6. Two dice are thrown simultaneously . Find the probability that the sum of the numbers on the faces is neither divisible by 4 nor by 5.

A.

B.

C.

D.

Answer: $P(A) = \frac{n(A)}{n(S)} = \frac{20}{36}$



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7. Draw a circle of radius 3 cm. Take a point P outside the circle without using the centre of

the circle, draw two tangents to the circle from an external point P.

A.

B.

C.

D.

Answer:



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8. Prove that $(\csc \theta - \cot \theta)^2 = \frac{1 - \cos \theta}{1 + \cos \theta}$

OR

If $\sin \theta + \cos \theta = \sqrt{2} \sin(90 - \theta)$ determine $\cot \theta$

A.

B.

C.

D.

Answer: $\therefore \cot \theta = \sqrt{2} + 1$



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iv Answer The Following Questions

1. 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.

Or

The sum of 2 digits of a 2 digit number is 12 the number obtained by interchanging the

digits exceeds by the given number by 18. Find the number.

A.

B.

C.

D.

Answer: \therefore The present age of Asha is 25 years.

The present age of Usha is 5 years.

OR

57



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2. Find the other two zeroes of the polynomial

$$y^4 + y^3 - 9y^2 - 3y + 18$$
 if the zeroes are $\sqrt{3}$

and $-\sqrt{3}$

A.

B.

C.

D.

Answer: The four zeros of polynomial are

$$\sqrt{3}, -\sqrt{3}, -3+2i$$



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3. Solve for x.

$$\frac{1}{a + b + x} = \frac{1}{a} + \frac{1}{b} + \frac{1}{x} \quad (\text{Where}$$

$$a \neq 0, b \neq 0, x \neq 0, x \neq -a, -b)$$

OR

The diagonal of a rectangular field is 60m more than the shorter side. If the larger side is 30m more than the shorter side, find the sides of the field.

A.

B.

C.

D.

Answer: $\Rightarrow x = -a, x = -b$

Or

\therefore **The shorter side** $= x = 90m$

The longer side $= x + 30 = 90 + 30 = 120$
m.



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

OR

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

A.

B.

C.

D.

Answer: $k = 4$

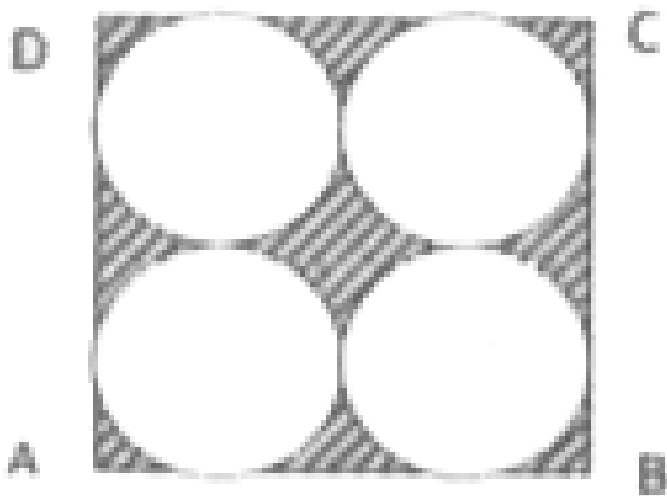
OR

24 sq. units



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



OR

Find the area of the shaded regions. Given

PQRS a square of sides 14 cm.

A.

B.

C.

D.

Answer: 42cm^2

OR

42cm^2



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6. 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

A.

B.

C.

D.

Answer: Median = 56.66



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V Answer The Following Questions

1. Solve the pair of equations graphically.

$$x + y = 8 \text{ and } x - y = -2$$

A.

B.

C.

D.

Answer:



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2. Devide 20 into four parts which are in arithmetic progression and such that the product of first and fourth is to the product of second and third in the ratio 2:3 .

OR

The angles of a quadrilateral are in AP such

that the greatest is double the least calculate
all the angles of the quadrilateral .

A.

B.

C.

D.

Answer: Hence the four parts are (2, 4, 6, 8) or
(8, 6, 4, 2)

Or

60° , 80° , 100, 120`



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3. A person on the lighthouse of height 100 m above the sea level observes that the angle of depression of a ship sailing towards the light house changes from 30° to 45° . Calculate the distance travelled by the ship during the period of observation. (Take $\sqrt{3} \approx 1.73$)

A.

B.

C.

D.

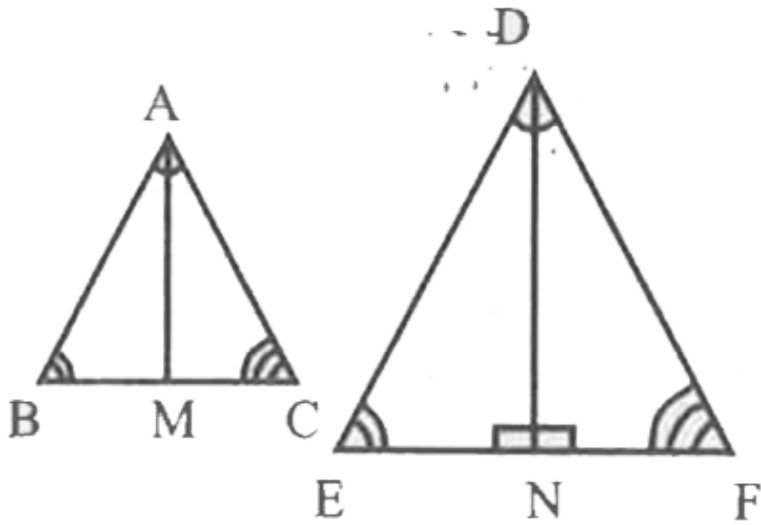
Answer: Therefore, the distance travelled
 $= 73.2 \text{ m}$



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4. Prove that " the ratio of areas of two similar triangles is equal to the square of the ratio of

their altitudes.



A.

B.

C.

D.

Answer:



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Vi Answer The Following Questions

1. The radii of the circular ends of the frustrum of height 6cm are 14 cm and 6cm respectively. Find the lateral surface area and total surface area of frustrum.

A.

B.

C.

D.

Answer: 1357.71cm^2



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