MATHS

BOOKS - SURA MATHS (TAMIL ENGLISH)

3rd TERM SUMMATIVE ASSESSMENT - 2018-19

Choose The Correct Answer

1. If (2,3) is a solution of linear equation $2x + 3y = k$ then, the value of k is

    A. 12

    B. 6

C. 0

D. 13

Answer: D

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2. If $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} \neq \dfrac{c_1}{c_2}$ where $a_1 x + b_1 y + c_1 = 0$ and $a_2 x + b_2 y + c_2 = 0$ then the given pair of linear equation has _____ solution (s) .

A. no solution

B. two solutions

C. unique

D. infinite

Answer: C

3. The ratio in which the x-axis divides the line segment joining the points $A(a_1, b_1)$ and $B(a_2, b_2)$ is

A. $b_1 : b_2$

B. $-b_1 : b_2$

C. $a_1 : a_2$

D. $-a_1 : a_2$

Answer: B

4. The mid-point of the line joining (-a, 2b) and (-3a, -4b) is

A. (2a, 3b)

B. (-2a, -b)

C. (2a, b)

D. (-2a, -3b)

Answer: B

5. If $\sin 30° = x$ and $\cos 60° = y$, then $x^2 + y^2$ is

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

B. O

C. $\sin 90°$

D. $\cos 90°$

Answer: A

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6. The value of $\dfrac{1 - \tan^2 45°}{1 + \tan^2 45°}$ is

A. 2

B. 1

C. 0

D. $\dfrac{1}{2}$

Answer: C

7. If the sides of a triangle are 3 cm, 4 cm and 5 cm, then the area is

A. $3cm^2$

B. $6cm^2$

C. $9cm^2$

D. $12cm^2$

Answer: B

8. The capacity of a water tank of dimensions

$10m \times 5m \times 1.5m$ is

    A. 75 litres

    B. 750 litres

    C. 7500 litres

    D. 75000 litres

Answer: D

9. Probability lies between

    A. -1 and $+1$

    B. 0 and 1

    C. 0 and n

    D. 0 and α

Answer: B

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10. The six faces of the dice are called equally likely if the

dice is

A. small

B. Fair

C. Six-faced

D. Round

Answer: B

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1. Solve the linear equation : $\dfrac{2(x+1)}{2} = \dfrac{3(x-2)}{5}$.

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2. Find the slope and y-intercept of the line given by the equation 2y-3x=12.

3. Check whether (5,-1) is a solution of the simultaneous equations x-2y=7 and 2x+3y=7.

4. The centre of a cirlce is (-4,2) . If one end of the diameter of the circle is (-3,7) tehn find the other end.

5. What are the coordinates of B if point P(-2,3) divides the line segment joining A(-3,5) and B internally in the ratio 1:6?

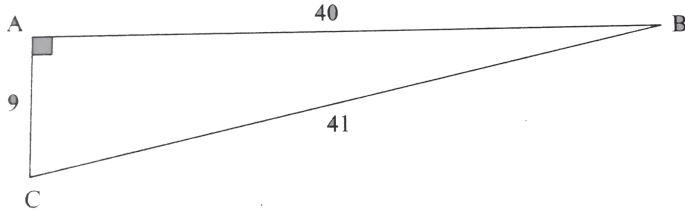▶ **Watch Video Solution**

6. Find the centroid of the triangle whose vertices are (-5,-5), (1,-4) and (-4,-2).

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7. From the given figure, find all the trigonometric ratios of angle B.

8. Evaluate : i) $\sin 30° + \cos 30°$ (ii) $\dfrac{\sin 49°}{\cos 41°}$

9. If $\tan B = \cot 47°$, find B.

10. Using Heron's formula, find the area of a triangle whose sides are

10 cm, 24 cm, 26 cm

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11. Find the Total Surface Area and Lateral Surface Area of the cube, whose side is 5 cm.

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12. The dimensions of a match box are $6cm \times 3.5cm \times 2.5cm$. Find the volume of a packet containing 12 such match boxes.

13. When two coins are tossed, what is the probability that two heads are obtained?

14. The probability that it will rain tomorrow is $\dfrac{91}{100}$ what is the probability that it will not rain tomorrow?

Answer Any 7 Questions Questions No 35 Is Compulsory

1. Solve $2x = -7y + 5$, $-3x = -8y - 11$ by cross multiplication method.

2. The sum of a two digit number and the number formed by interchanging the digits is 110. If 10 is subtracted from the first number, the new number is 4 more than 5 times the sums of the digits of the first number. Find the first number.

3. ABC is a triangle whose vertices are A(3,4) B(-2,-1) and C(5,3). If G is the centroid and BDCG is a parallelogram

then find the coordinates of the vertex D.

4. Find the value of

$$\frac{\cot\theta}{\tan(90° - \theta)} + \frac{\cos(90° - \theta)\tan\theta\sec(90° - \theta)}{\sin(90° - \theta)\cot(90° - \theta)\cos ec(90° - \theta)}$$

5. Find the area of a right triangle whose hypotenuse is 10

cm and one of the acute angle is $24°$ 24'.

6. A cubical container of side 6.5 m is to be painted on the entire outer surface. Find the area to be painted and the total cost of painting it at the rate of ₹ 24 per m^2.

7. The side of the metallic cube is 12 cm. It is melted and formed into a cuboid whose length and breadth are 18 cm and 16 cm respectively. Find the height of the cuboid.

8. In an office, where 42 staff members work, 7 staff members use cars, 20 staff members use two - wheelers

and the remaining 15 staff members use cycles. Find the relative frequencies.

9. If $\cos A = \dfrac{2x}{1 + x^2}$, then find the values of sin A and tan A in terms of x.

Answer The Following

1. Draw the graph of the line given by the equation

$$y = 4x - 1$$

(or)

Use graphical method to solve the following system of equations $3x + 2y = 6, 6x + 4y = 8$

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