MATHS

BOOKS - EDUCART PUBLICATION

CBSE TERM-1 SAMPLE PAPER 2

Section A

1. Find the largest number which divides 615 and 963 leaving remainder 6 in each case.

A. 87

B. 75

C. 56

D. 88

Answer:

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2. How many solutions does the pair of equations $x + y = 1$ and $x + y = -5$ have ?

A. Unique

B. No solution

C. infinitely many

D. Can't decide

Answer:

3. Find the value of p for which the following pair of linear equations have infinitely many solutions ?

$4x + 7y = 5$

$px + 21y = 15$

A. -6

B. 0

C. 6

D. 12

Answer:

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4. In ΔABC, D is point on side AB and E is a point on side AC such that $\angle ADE = \angle ABC$, $AD = 2$, $BD = 3$ and $AE = 3$, then what is the value of CE ?

A. 6 cm

B. 3 cm

C. 4.5 cm

D. 5 cm

Answer:

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5. Find the values of x for which the distance between the point $P(2, \ -3)$ and $Q(x, \ 5)$ is 10.

A. $9, \ 2$

B. $-4, \ 8$

C. $10, \ 1$

D. $6, \ 3$

Answer:

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6. If the perimeter of a semi-circular protractor is 36 cm, then its diameter is (a) 10 cm (b) 12 cm (c) 14 cm (d) 16 cm

A. 7 cm

B. 14 cm

C. 21 cm

D. 42 cm

Answer:

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7. Evaluate the zeroes of the polynomial $2x^2 - 16$.

A. $2\sqrt{2}, -2\sqrt{2}$

B. $\sqrt{2}, -\sqrt{2}$

C. $4, -4$

D. $2, -2$

Answer:

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8. What is the value of k in the expression, $\sec^2\theta(1+\sin\theta)(1-\sin\theta)=k$?

A. $\frac{1}{5}$

B. 7

C. 1

D. 12

Answer:

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9. If point $P(4, 2)$ lies on the line segment joining the points $A(2, 1)$ and $B(8, 4)$ then :

A. AP=PB

B. $PB = \frac{1}{3}AP$

C. $AP = \frac{1}{2}PB$

D. $AB = \frac{1}{3}PB$

Answer:

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10. The perimeter of a tringle with vertices (0,4), (0,0) and (3,0) is

A. 10 units

B. 15 units

C. 12 units

D. 9 units

Answer:

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11. What is the probability of getting 101 marks out of 100 marks in maths exams ?

A. 1

B. 0

C. 0.5

D. 0.01

Answer:

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12. What is the value of a if the mid-point of the line segment joining the points $P(6, a-2)$ and $Q(-2, 4)$ is $(2, -4)$?

A. -10

B. 10

C. 0

D. 7

Answer:

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13. What is the probability of chosing a vowel from the word MATCH if a letter is chosen randomly from it ?

A. $\frac{2}{5}$

B. $\frac{1}{5}$

C. $\frac{3}{5}$

D. $\frac{4}{5}$

Answer:

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14. Evaluate the simplified value of $\left(1+\cot^2\theta\right)(1-\cos\theta)(1+\cos\theta)$.

A. 1

B. -1

C. $\cot\theta$

D. $\sec^2\theta$

Answer:

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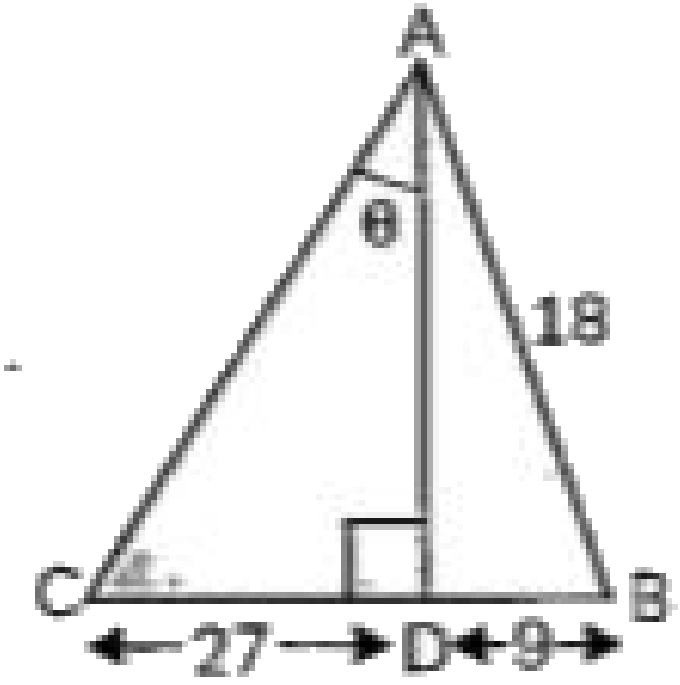
15. Find the value of $\tan\theta$, by using the following figure :



A. $\sqrt{3}$

B. $\frac{1}{3}$

C. $\frac{1}{2}$

D. $\sqrt{2}$

Answer:

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16. A ladder 17m long reaches a window of a building 15m above the ground. Find the distance of the foot of the ladder from the building.

A. 8 m

B. 12 m

C. 10 m

D. 13 m

Answer:

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17. In a $\Delta ABC, \frac{AB}{AC} = \frac{BD}{DC}, \angle B = 70^\circ$ and $\angle C = 50^\circ$, then $\angle BAD$?

A. 30°

B. 45°

C. 60°

D. 75°

Answer:

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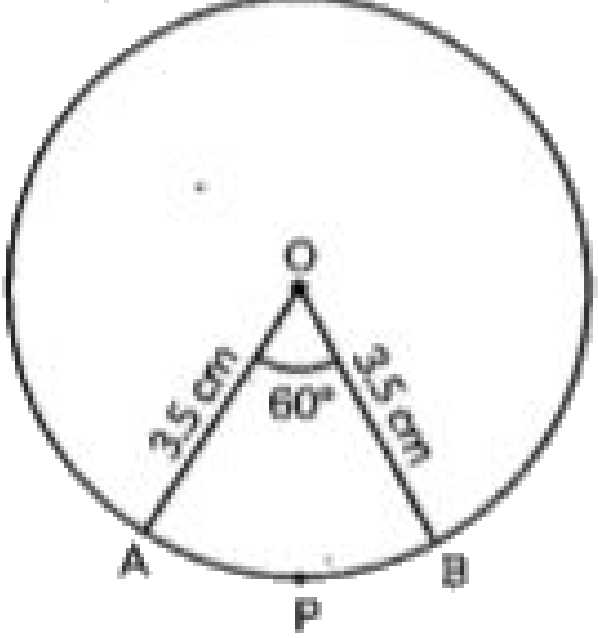
Section B

1. What is the length of OAPB, in the given figure ? (Use $\pi = 3.14$)



A. 22 cm

B. 11 cm

C. 13 cm

D. 17 cm

Answer:

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2. What is the shortest distance between $A(4, 1)$ and $C(8, 4)$?

A. 7 units

B. 3 units

C. 5 units

D. 4 units

Answer:

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3. Consider the two numbers whose sum is 135 and their HCF is 27 . If their LCM is 162 , then what will be the larger number ?

A. 81

B. 78

C. 57

D. 54

Answer:

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4. Three coins are tossed simultaneously . The probability of getting at most one tail is :

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

B. $\frac{2}{3}$

C. $\frac{3}{4}$

D. $\frac{3}{8}$

Answer:

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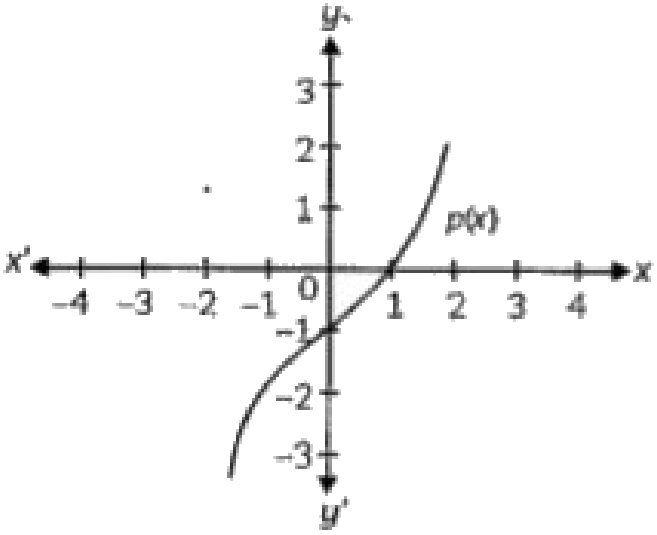
5. Find the number of zeroes, for the polynomial $p(x)$ shown in the graph below :



A. 0

B. 1

C. 2

D. 3

Answer:

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6. Polynomial $f(x) = x^2 - 5x + k$ has zeroes α and β such that $\alpha - \beta = 1$. Find the value of $4k$.

A. 6

B. 12

C. 18

D. 24

Answer:

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7. What is the measure of the hypotenuse of a right triangle, when its medians, drawn from the vertices of the acute angles, are 5 cm and $2\sqrt{10}$ cm long ?

A. $5\sqrt{8}$ cm

B. $2\sqrt{13}$ cm

C. $6\sqrt{10}$ cm

D. $2\sqrt{7}$ cm

Answer:

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8. Find the value of $\sin 2\theta_1 + \tan 3\theta_2$, if $\tan(\theta_1 + \theta_2) = \sqrt{3}$ and $\sec(\theta_1 - \theta_2) = \frac{2}{\sqrt{3}}$.

A. 2

B. 1

C. 0

D. -1

Answer:

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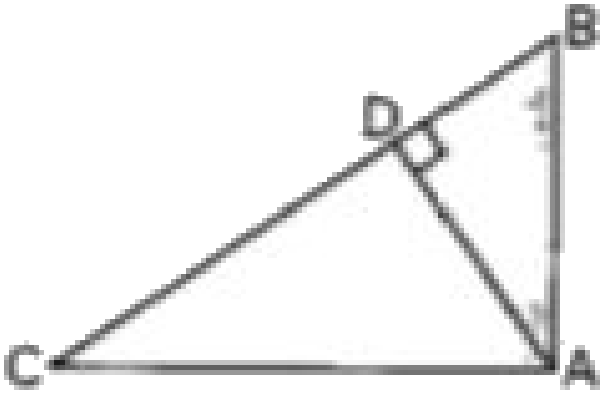
9. Evaluate the value of $AB^2 + CD^2$ in the given figure, if $AD \perp BC$ and BD = 2, $AC = 4$.



A. 16

B. 20

C. 4

D. 6

Answer:

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10. What is the probability of getting black face card, if face cards of spades are removed from a well-shuffled pack of 52 cards ?

A. $\frac{1}{49}$

B. $\frac{2}{49}$

C. $\frac{3}{49}$

D. $\frac{4}{49}$

Answer:

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11. What are the coordinates of the point C, such that $B\left(\frac{1}{2}, 6\right)$ divides the line segment joining the points $A(3, 5)$ and C in the ratio of $1:3$?

A. $(0, 0)$

B. $(7, 9)$

C. $(7, -9)$

D. $(-7, 9)$

Answer:

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12. If

$x \sin^3 \theta + y \cos^3 \theta - \sin \theta \cos \theta and x \sin \theta = y \cos \theta,$

prove that $x^2 + y^2 = 1$

A. 1

B. $\frac{3}{2}$

C. $\frac{1}{2}$

D. 0

Answer:

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13. If we add 1 to the numerator and subtract 1 from the denominator, a fraction becomes 1. It

also becomes 1/2 if we only add 1 to the denominator. What is the fraction?

A. $\frac{2}{9}$

B. $\frac{3}{5}$

C. $\frac{4}{7}$

D. $\frac{5}{13}$

Answer:

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14. Evaluate $\left(\frac{-101}{\cos^2 A} + \frac{101}{\cot^2 A}\right)$

A. 101

B. -101

C. 1

D. -1

Answer:

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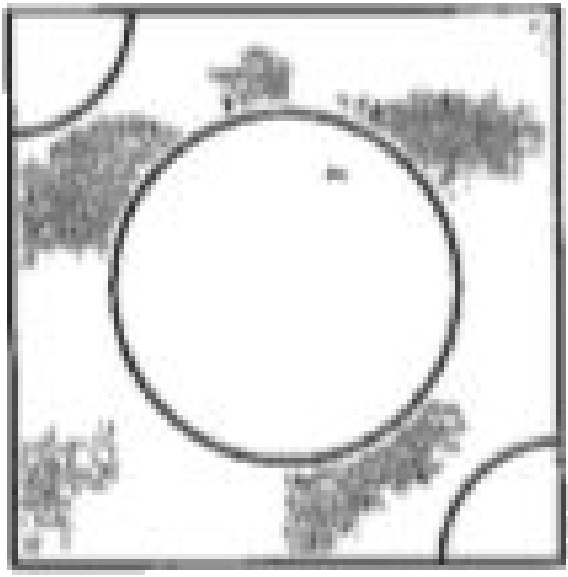
15. From a square of side 8 cm, two quadrants of a circle of radii 1.4 cm are cut from two corners . Another circle of radius 4.2 cm is also cut from

the centre as shown in the figure . Find the area of the remaining (shaded) portion of the square .

$\left[\text{Take}\pi = \frac{22}{7}\right]$



A. $6.12cm^2$

B. $5.48cm^2$

C. $5.76cm^2$

D. $6.45cm^2$

Answer:

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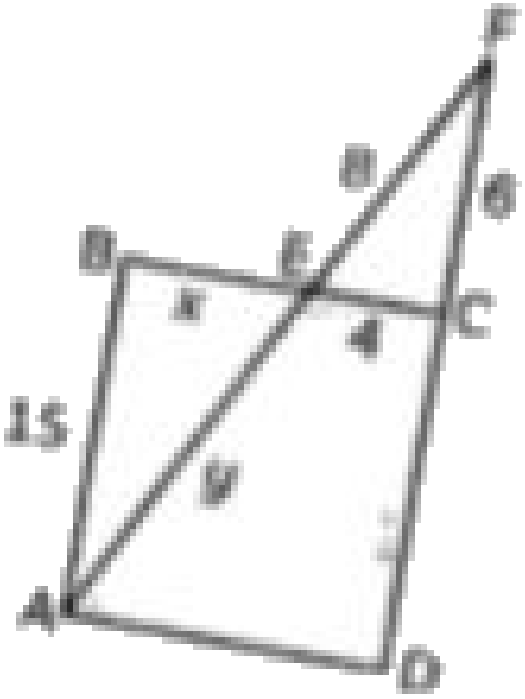
16. In the given figure, ABCD is a parallelogram in which DC is extended to F such that AF

intersects BC at E . Then perimeter of ΔABE=



A. 35 cm

B. 36 cm

C. 40 cm

D. 45 cm

Answer:

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17. Find the value of k, if $x - 2y + k = 0$ is a median of the triangle ABC whose vertices are $A(-1, 3), B(0, 4)$ and $C(-5, 2)$.

A. 8

B. 6

C. 4

D. 2

Answer:

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Section C

1. If length is to breadth ratio of a rectangle is 5:2 and area of the rectangle is $70m^2$, then find the perimeter of the rectangle.

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2. HCF of 240, 90, 120 is

A. 40

B. 45

C. 30

D. 20

Answer:

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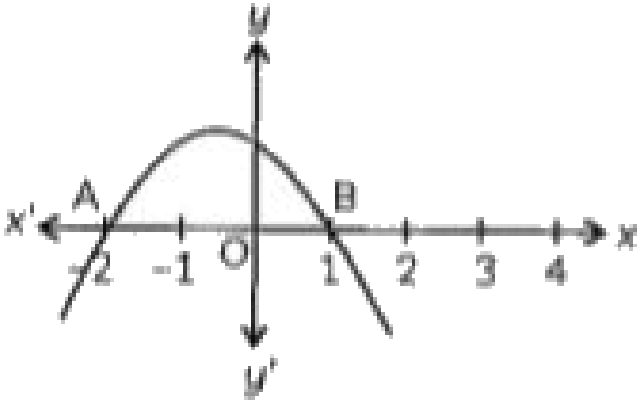
3. Last month, heavy storm came in kerala . Due to this storm, thousands of trees got broke and electric poles bent out . Some of the electric poles bent into the shape of parabola . One of the images of bent electric pole is shown in the figure below .



Calculate the zeroes of the given curve .

A. -2 and 1

B. -2 and -1

C. 2 and -1

D. 2 and 1

Answer:

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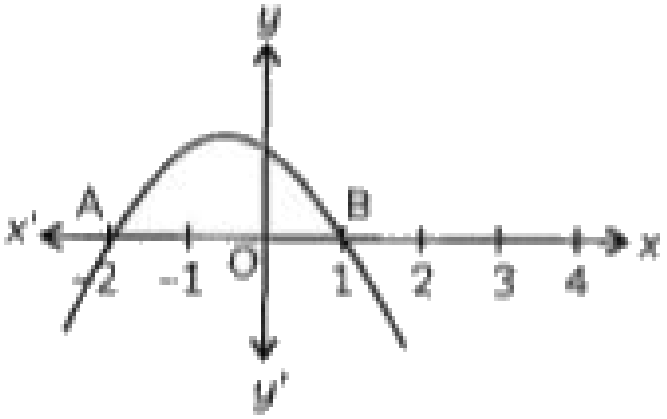
4. Last month, heavy storm came in kerala . Due to this storm, thousands of trees got broke and electric poles bent out . Some of the electric

poles bent into the shape of parabola . One of the images of bent electric pole is shown in the figure below .



What is the polynomial expression of the given curve ?

A. $x^2 + x - 2$

B. $x^2 - x + 2$

C. $x^2 - x - 2$

D. $x^2 + x + 2$

Answer:

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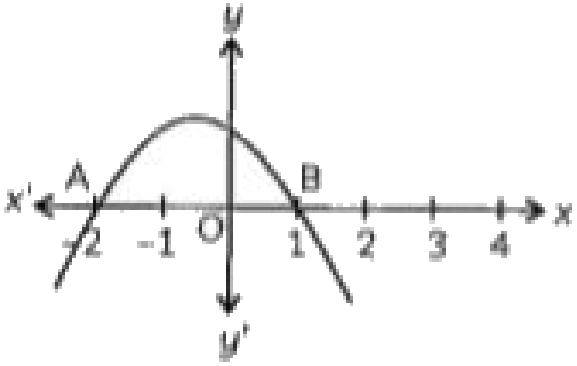
5. Last month, heavy storm came in kerala . Due to this storm, thousands of trees got broke and electric poles bent out . Some of the electric poles bent into the shape of parabola . One of the images of bent electric pole is shown in the figure below .



If $x = 2$, then what will be the value of the polynomial ?

A. 3

B. -4

C. 2

D. 4

Answer:

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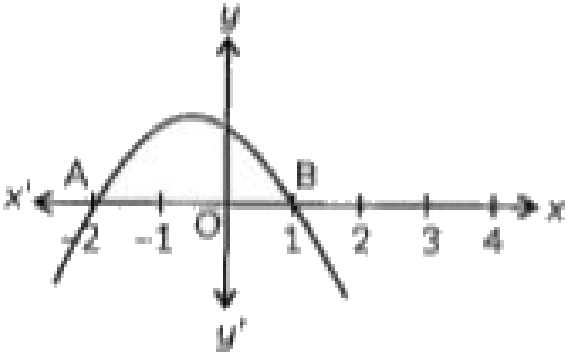
6. Last month, heavy storm came in kerala . Due to this storm, thousands of trees got broke and electric poles bent out . Some of the electric poles bent into the shape of parabola . One of the images of bent electric pole is shown in the figure below .



If the parabola is moved towards the right side

by one unit, then find the new polynomial expression .

A. $x^2 - 3x + 2$

B. $x^2 + x + 2$

C. $x^2 + x - 2$

D. $x^2 - x - 2$

Answer:

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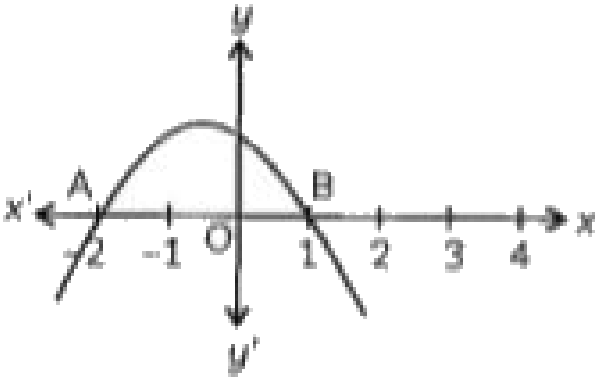
7. Last month, heavy storm came in kerala . Due to this storm, thousands of trees got broke and electric poles bent out . Some of the electric poles bent into the shape of parabola . One of the images of bent electric pole is shown in the figure below .



Suppose the quadratic polynomial for given curve is $ax^2 + bx + c$. Then a is always :

A. > 0

B. < 0

C. ≥ 0

D. ≤ 0

Answer:

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