



MATHS

BOOKS - EDUCART PUBLICATION

SAMPLE PAPER 6

Section A

1. The decimal representation of $\frac{129}{2^2 \cdot 5^3}$ will be :

A. terminating

B. Non-terminating

C. Non-terminating and repeating

D. Non-terminating and non-repeating

Answer: D



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2. For the given polynomial $p(x) = x^2 - 5x - 1$,

if α and β are its zeroes then find the value of

$$\alpha^2\beta + \alpha\beta^2$$

A. -5

B. 4

C. 0

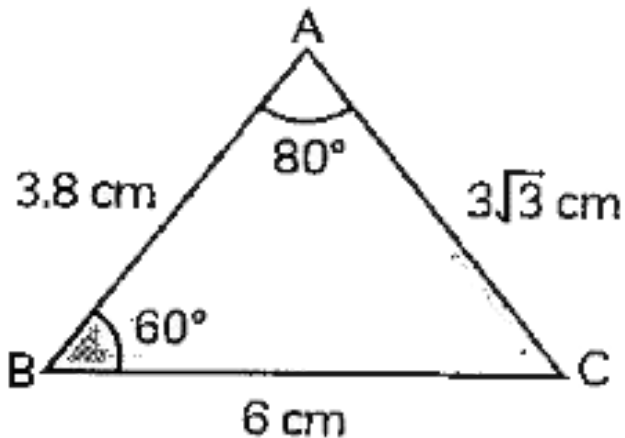
D. -7

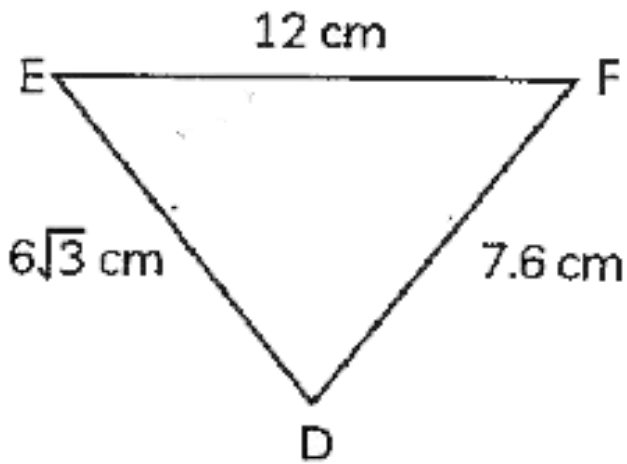
Answer: A



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3. What is the value of $\angle F$ in the given figure ?





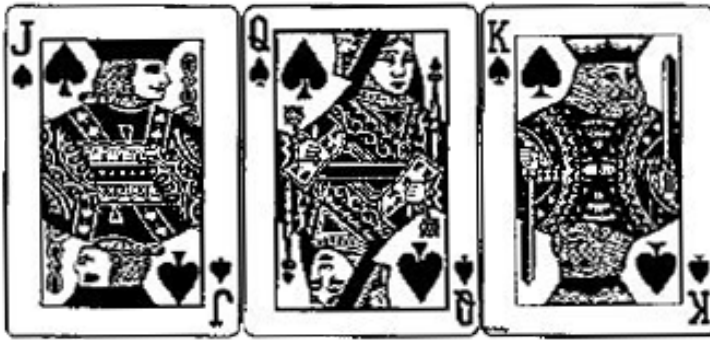
- A. 60°
- B. 80°
- C. 40°
- D. 70°

Answer: A



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4. What is the probability of getting black face card, if following cards are removed from a well-suffled pack of 52 cards ?



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

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

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

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

Answer: C



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5. What is the probability of not getting a prime number in a single throw of a die ?

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

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

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

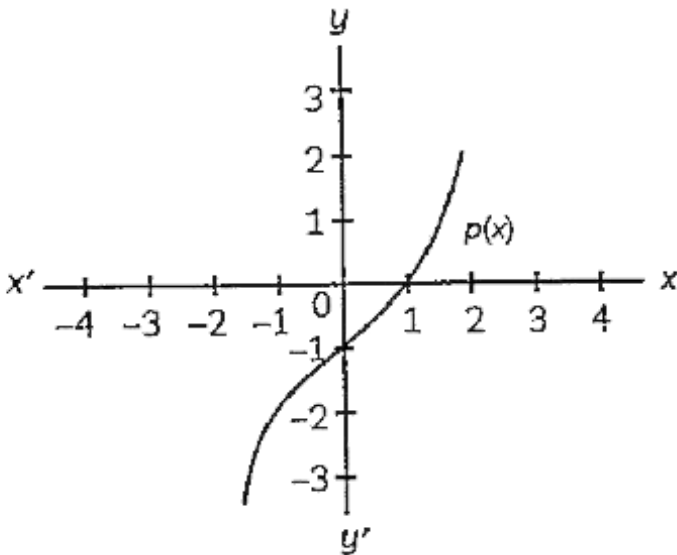
D. $\frac{1}{4}$

Answer: A



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



A. 0

B. 1

C. 2

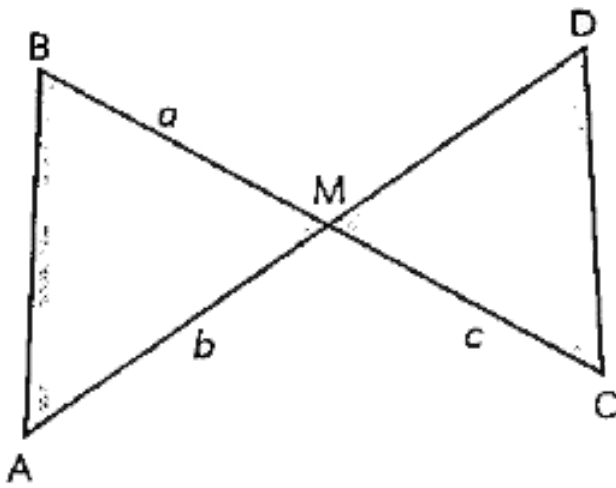
D. 3

Answer: B



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7. If $\triangle AMB \sim \triangle CMD$, then what is the measure of DM (in terms of a,b,and c.) ?



A. $\frac{a^2 c^2}{b}$

B. $\frac{ac}{b^2}$

C. $\frac{ac}{b}$

D. $\frac{ac}{c}$

Answer: C



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8. What is the smallest odd composite number ?

A. 1

B. 5

C. 9

D. 15

Answer: C



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9. Find the value of x if $\tan 3x = \sin 45^\circ \cos 45^\circ + \sin 30^\circ$

A. 0°

B. 15°

C. 30°

D. 45°

Answer: B



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10. What is the fourth vertex of a parallelogram, if its three consecutive vertices are $(-2,-1)$, $(1,0)$ and $(4,3)$?

A. $(0, -2)$

B. $(2, 2)$

C. $(2, 1)$

D. $(1, 2)$

Answer: D



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11. Rajesh and Mahesh are playing a game. In this game, each player throws two dice and note down the numbers on the dice. By the rules of the game, Mahesh needs to get two numbers such that their product is a perfect square, in order to win the game. What is the probability that Mahesh will win the game.

A. $\frac{1}{9}$

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

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

D. $\frac{2}{7}$

Answer: B



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12. If one of the zero of the polynomial $f(x) = x^2 - 7x - 8$ is -1, then find the other zero .

A. 7

B. 1

C. 8

D. 5

Answer: C



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13. If $\tan \theta + \sec \theta = n$, then
 $\sec^4 \theta - \tan^4 \theta - 2 \sec \theta \tan \theta =$

A. $n - 1$

B. n^2

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

D. 0

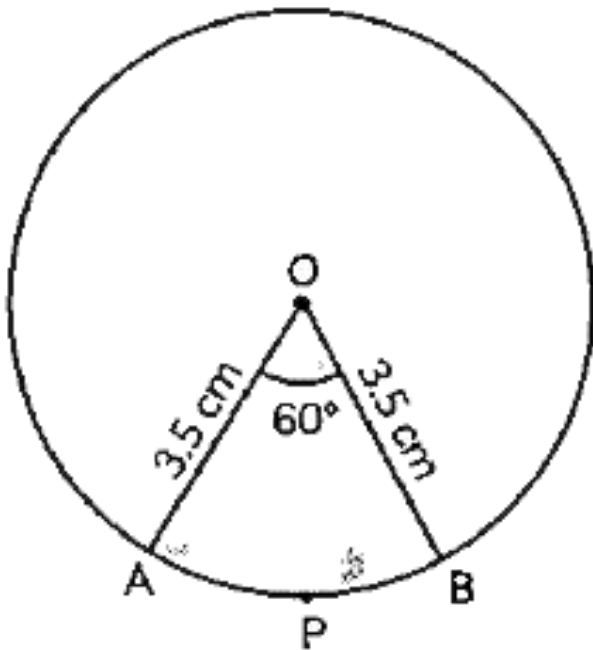
Answer: C



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14. What is the length of OAPB, in the given (Use

$\pi = 3.14$)



A. 22 cm

B. 11 cm

C. 13 cm

D. 17 cm

Answer: B



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15. If 3 is a zero of polynoial $2x^2 + x + k$, then find the value of 'k' is :

A. -21

B. -5

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

D. 7

Answer: C



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16. Two alarm clock ring their alarms at regular intervals of 50 seconds and 48 seconds. If they first beep together at 12 noon, at what time will they beep again ?

A. 12:20 p.m.

B. 01:05 p.m.

C. 02:20 p.m.

D. 12:35 p.m.

Answer: A



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17. Co-prime numbers is a set of numbers which have 1 as their

A. only factor

B. LCM

C. HCF

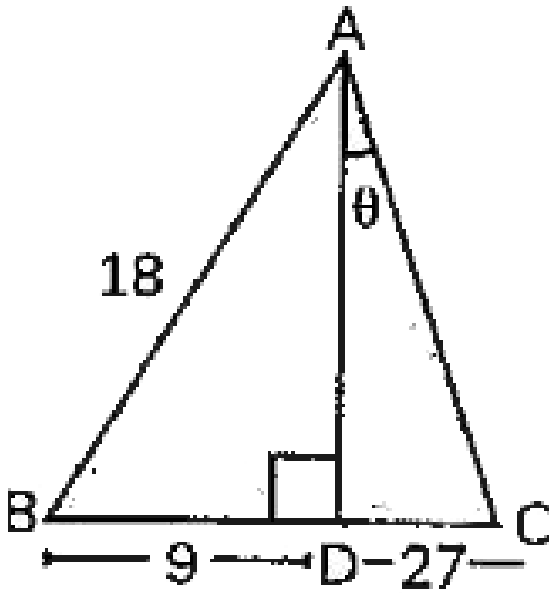
D. both (b) and (C)

Answer: C



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18. 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: A



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19. What is the point on y-axis which is equidistant from the points (2,3) and (-4,1) ?

A. (0, - 1)

B. (0, 1)

C. (0, 2)

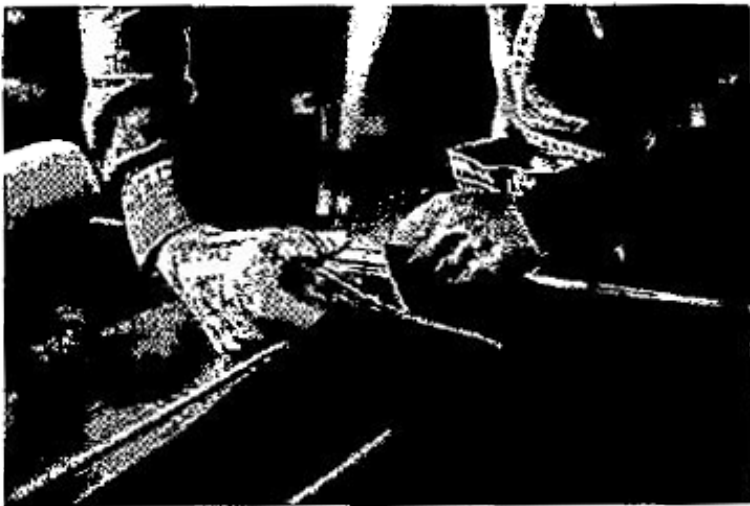
D. (0, - 2)

Answer: A



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20. Suman has a piece of cloth measuring 120 cm (length) and 96 cm (width). She wants to cut of into smaller square cloth pieces in such a way that there is no wastage of cloth.



The number of square places that can be cut from the given piece of cloth is :

A. 20

B. 24

C. 40

D. 48

Answer: A



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Section B

1. The sum of two number is 25. One of the numbers exceeds the other by 9. The number are ?

A. 15,10

B. 16,9

C. 13,12

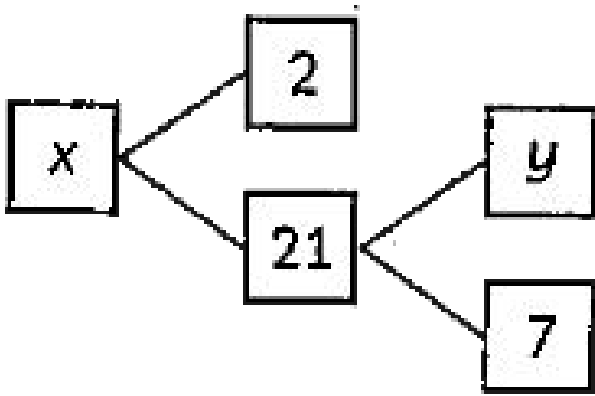
D. 17,8

Answer: D



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2. Calculate $\frac{x}{y}$



A. 14

B. 3

C. 15

D. 18

Answer: A



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3. If $\triangle ABC \sim \triangle DEF$, such that $\angle A = 47^\circ$ and $\angle E = 83^\circ$, what is the value of $\angle C$?

A. 43°

B. 50°

C. 17°

D. 55°

Answer: B



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4. Find the value of $\frac{3 - 4 \sin^2 A}{4 \cos^2 A - 3}$ if $\sec A = \frac{17}{8}$.

A. $\frac{33}{611}$

B. $\frac{53}{78}$

C. $\frac{2}{\sqrt{3}}$

D. $\frac{17}{64}$

Answer: A



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5. Find the ratio of circumference of two circles whose areas are in the ratio of 16 : 25.

A. 16 : 25

B. 4 : 5

C. 5 : 4

D. 25 : 16

Answer: B



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6. Rita, Sita, Gita and Shyam are playing a bridge game. It is four persons play and a pair of two-two persons as a partner is made. A deck of 52 playing cards is distributed around the table clockwise in such a way that each person gets 13 cards.

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Find the probability that the card drawn is a queen of black colour.

A. $\frac{5}{26}$

B. $\frac{1}{26}$

C. $\frac{3}{26}$

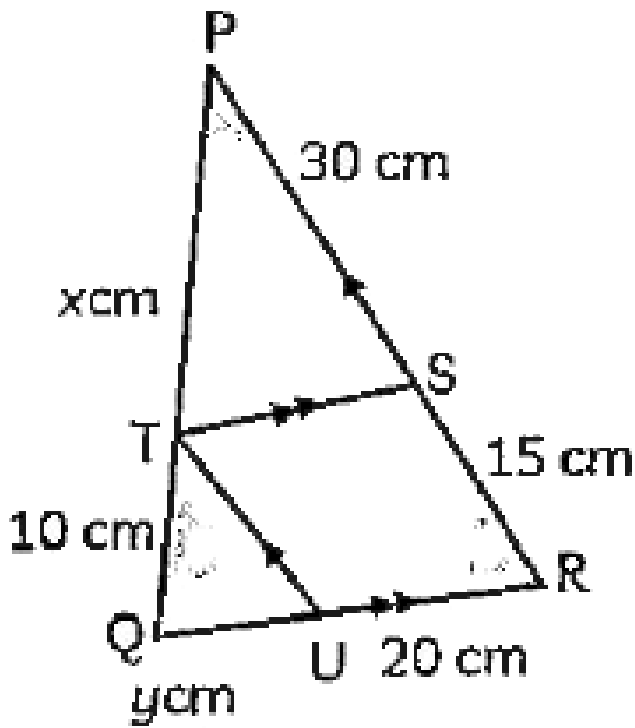
D. $\frac{25}{26}$

Answer: B



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7. Thales theorem is given by a greek mathematician. According to this theorem, if a line is drawn parallel to one side of a triangle then it divides the other two sides in the same ratio. This theorem is also known as Basic Proportionality Theorem.



Here, the value of x is :

- A. 20 cm
- B. 15 cm
- C. 5 cm
- D. 10 cm

Answer: A



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8. What is the probability of getting exactly one head, when two coins are tossed simultaneously.

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

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

C. $\frac{1}{4}$

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

Answer: A



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9. Find the number of solutions for the pair of equations

$$x + 3y + 5 = 0 \text{ and } -3x - 9y + 2 = 0.$$

A. one

B. two

C. infinite

D. None

Answer: D



10. What is the smallest number by which $\frac{891}{3500}$ must be multiplied so it becomes a terminating decimal ?

A. 6

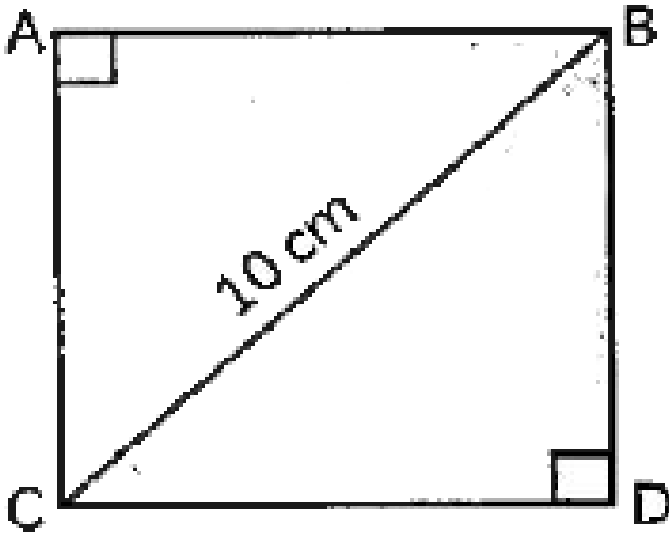
B. 7

C. 10

D. 5

Answer: B

11. Find the side of a square whose diagonal is 10 cm.



A. $5\sqrt{2}cm$

B. $10\sqrt{2}cm$

C. $5cm$

D. 10cm

Answer: A



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12. An integer is 1 less than twice that of another.

If their sum is 23 then the smaller integer is :

A. 5

B. 7

C. 11

D. 13

Answer: B



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13. What will be the number of the zero (s), if the graph of a quadratic polynomial does not intersect the x-axis ?

A. zero

B. one

C. two

D. three

Answer: A



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14. Evaluate the area of a semi-circle whose radius is 8.4 cm.

A. 110cm^2

B. 55cm^2

C. 57cm^2

D. 88cm^2

Answer: A



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15. In $\triangle ABC$, AD is the internal bisector of $\angle A$, meeting the side BC at D . If $BD = 5\text{cm}$, $BC = 7.5\text{cm}$, then $AB:AC$ is

A. 1:2

B. 2:1

C. 3:1

D. 1:3

Answer: B





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16. Express R_3 in terms of R_1 and R_2 , where the sum of areas of two circles with radii R_1 and R_2 is equal to the area of the circle of radius R_3 .

A. $R_3^2 + R_2^2 = R_1^2$

B. $R_3^2 = R_1^2 - R_2^2$

C. $R_3^2 = R_1^2 + R_2^2$

D. $R_3^2 + R_1^2 = R_2^2$

Answer: C



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17. Find the value of c in $p(x) = ax^2 + bx + c$, if one of the zeroes of $p(x)$ is 0.

A. -7

B. 5

C. -2

D. 0

Answer: A



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18. A ladder 10 m long reaches the window of a house 8 m above the ground. Find the distance of the foot of the ladder from the base of the wall.

A. 8 m

B. 18 m

C. 6 m

D. 5 m

Answer: C



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19. What is value of $\alpha + \beta$, if $\tan \alpha = 1$ and \sec

$$\beta = \sqrt{2} ?$$

A. 0°

B. 30°

C. 45°

D. 90°

Answer: D



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20. What is the value of 'k', if one zero of the polynomial $(k - 1)x^2 - 10x + 3$ is reciprocal of the other.

A. 4

B. 5

C. -1

D. 0

Answer: A



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Section C

1. Rajesh want to chose a best plan for his mobile phone. He has 2 options available with him. The first plan of company A, cost Rs 20 per month, with costing an additional 25 paise per minute.

The second plan of company B charge Rs 40 per month, but calls cost 8 paise per minute. These two situations are shown below in the form of linear equations.

The total cost of the two company's are given as :

$$y = 0.25x + 20$$

and $y = 0.8x + 40$

Where, x is the minutes used any y is the total cost per month.



Cost :

Plans prices range from under 10 to over 100 ₹

Types of Plan :

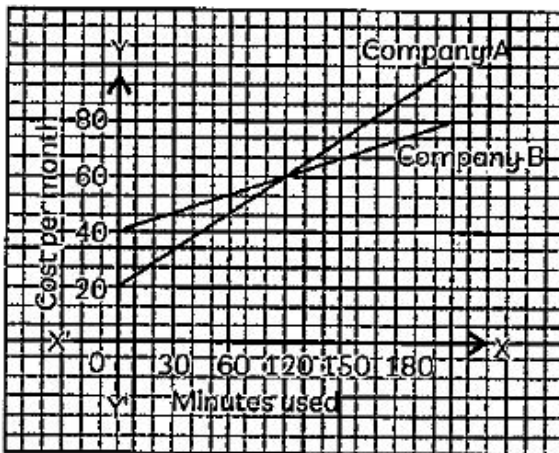
Prepaid and post-paid or phone on a plane

Network :

Coverage

Other benefits :

Calls, SMS, Data and other extras



If Rajesh decides to take first plan and calls for 90 minutes in a month, then how much amount he will have to pay ?

A. Rs 45

B. Rs 42.50

C. Rs 40

D. Rs 20

Answer: B



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2. Rajesh want to chose a best plan for his mobile phone. He has 2 options available with him. The first plan of company A, cost Rs 20 per month,

with costing an additional 25 paise per minute.

The second plan of company B charge Rs 40 per month, but calls cost 8 paise per minute. These two situations are shown below in the form of linear equations.

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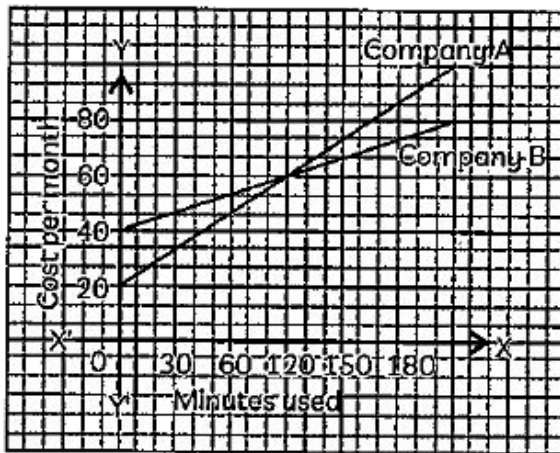


Cost :
Plans prices range from under 10 to over 100 ₹.

Types of Plan :
Prepaid and post-paid or phone on a plane

Network :
Coverage

Other benefits :
Calls, SMS, Data and other extras



Rajesh's friend takes second plan and also calls for 90 minutes in a month. Then how much amount will he have to pay ?

A. Rs 47

B. Rs 112

C. Rs 45

D. Rs 45. 20

Answer: B



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3. Rajesh want to chose a best plan for his mobile phone. He has 2 options available with him. The first plan of company A, cost Rs 20 per month, with costing an additional 25 paise per minute.

The second plan of company B charge Rs 40 per

month, but calls cost 8 paise per minute. These two situations are shown below in the form of linear equations.

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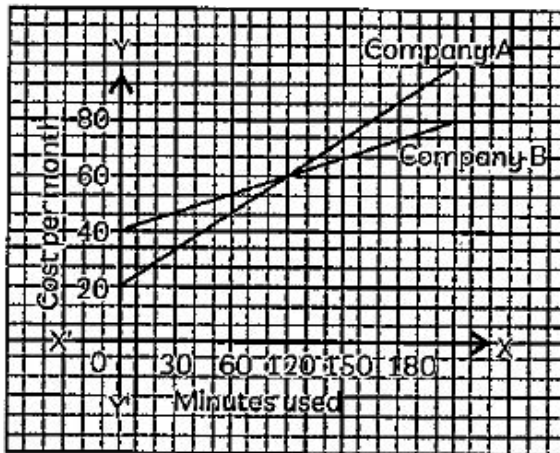


Cost:
Plans prices range from under 10 to over 100 ₺

Types of Plan:
Prepaid and post-paid or phone on a plane

Network:
Coverage

Other benefits:
Calls, SMS, Data and other extras



What are the values of x and y in the system of linear equations

$$x + 2y = -1 \text{ and } 2x - 3y = 12$$

A. $(-3, -2)$

B. $(3, 2)$

C. $(-3, 2)$

D. $(3, -2)$

Answer: D



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4. Rajesh want to chose a best plan for his mobile phone. He has 2 options available with him. The first plan of company A, cost Rs 20 per month, with costing an additional 25 paise per minute.

The second plan of company B charge Rs 40 per

month, but calls cost 8 paise per minute. These two situations are shown below in the form of linear equations.

The total cost of the two company's are given as :

$$y = 0.25x + 20$$

and $y = 0.8x + 40$

Where, x is the minutes used any y is the total cost per month.



Cost:
Plans prices range from under 10 to over 100 ₺



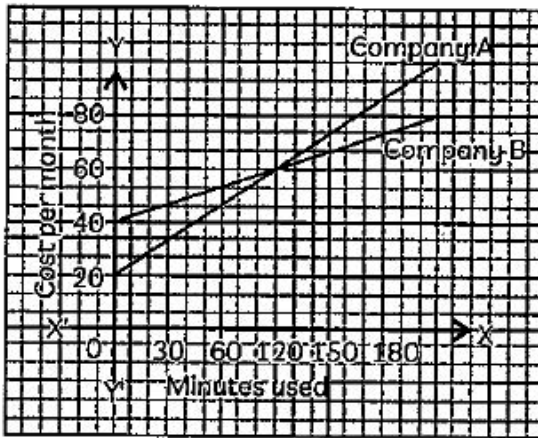
Types of Plan:
Prepaid and post-paid or phone on a plane



Network:
Coverage



Other benefits:
Calls, SMS, Data and other extras



If the system of pair of linear equation $kx - 2y = 5$,
 $3x + y = 1$ has a unique solution then the value of k
is :

A. $k = 6$

B. $k \neq -6$

C. $k \neq \frac{3}{2}$

D. $k \neq \frac{2}{3}$

Answer: B



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5. Rajesh want to chose a best plan for his mobile phone. He has 2 options available with him. The first plan of company A, cost Rs 20 per month, with costing an additional 25 paise per minute.

The second plan of company B charge Rs 40 per

month, but calls cost 8 paise per minute. These two situations are shown below in the form of linear equations.

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$$y = 0.25x + 20$$

and $y = 0.8x + 40$

Where, x is the minutes used any y is the total cost per month.



Cost :
Plans prices range from under 10 to over 100 ₺



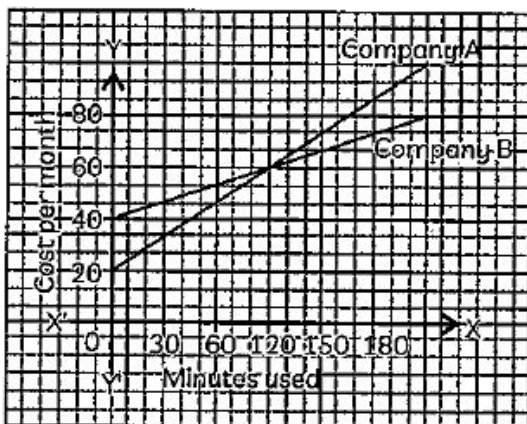
Types of Plan :
Prepaid and post-paid or phone on a plane



Network :
Coverage



Other benefits :
Calls, SMS, Data and other extras



Which type of lines is represented by the system of linear equations

$$x + 2y - 4 = 0, 2x + 4y - 12 = 0?$$

A. Coincident lines

B. Parallel lines

C. Intersecting lines

D. Can't say

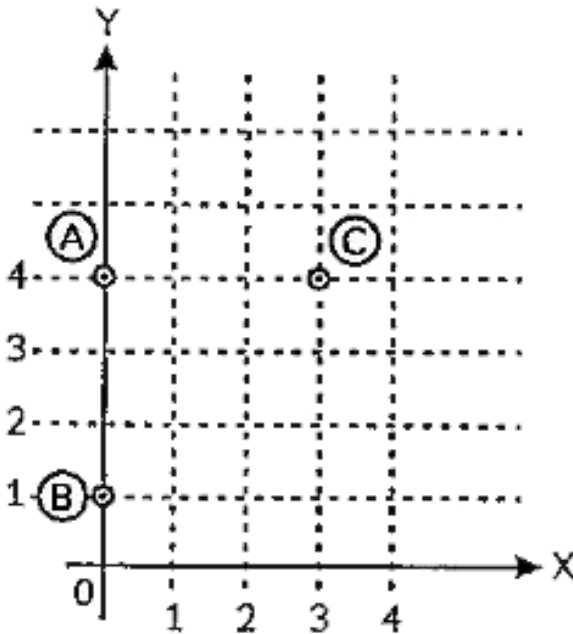
Answer: B



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6. Three sports incharge are sitting at positions A, B are C to monitor the activity of students in the playground They are conducting the physical education exam of students. The position of three instructors are shown on the coordinate axes. In

School play ground there sports incharge are
sittign at positions located by the points A, B and
C on coordinate axes as point A, B and C.



Coordinates of point B are

A. (0,0)

B. (1,0)

C. (0,1)

D. (1,1)

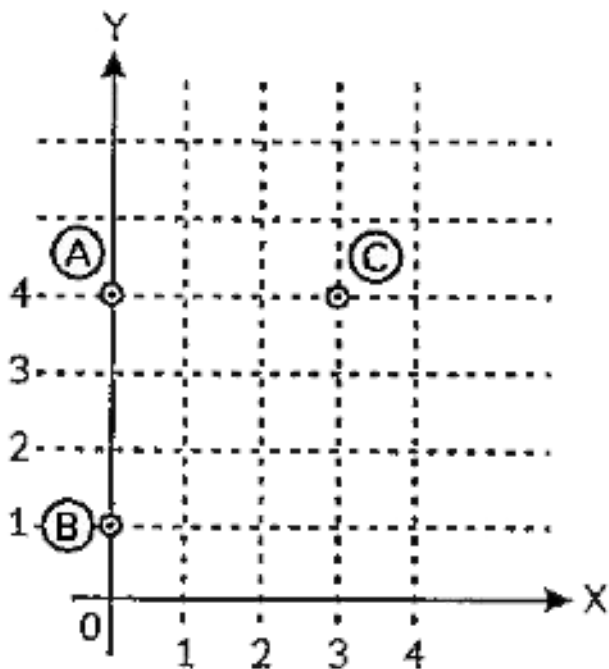
Answer: C



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7. Three sports incharge are sitting at positions A, B are C to monitor the activity of students in the playground . They are conducting the physical education exam of students. The position of three instructors are shown on the coordinate axes.

In School play ground there sports incharge are
sittign at positions located by the points A, B and
C on coordinate axes as point A, B and C.



What are the coordinates of point C ?

A. (3,3)

B. (4,3)

C. (3,4)

D. (4,4)

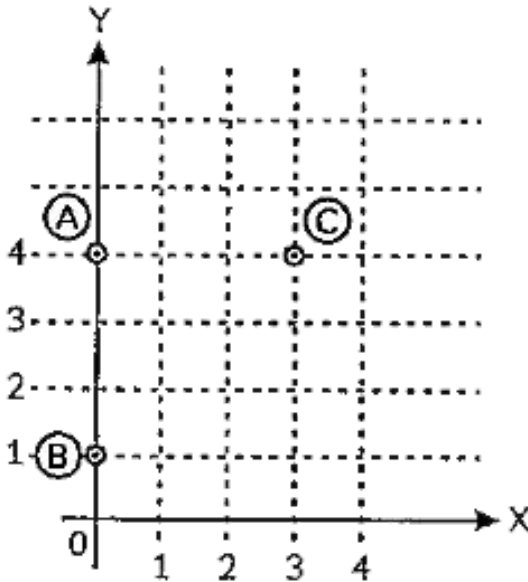
Answer: C



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8. Three sports incharge are sitting at positions A, B and C to monitor the activity of students in the playground. They are conducting the physical education exam of students. The position of three instructors are shown on the coordinate axes. In

School play ground there sports incharge are sitting at positions located by the points A, B and C on coordinate axes as point A, B and C.



Evaluate the distance AB.

A. distance OC

B. distance AC

C. distance BC

D. both (a) and (c)

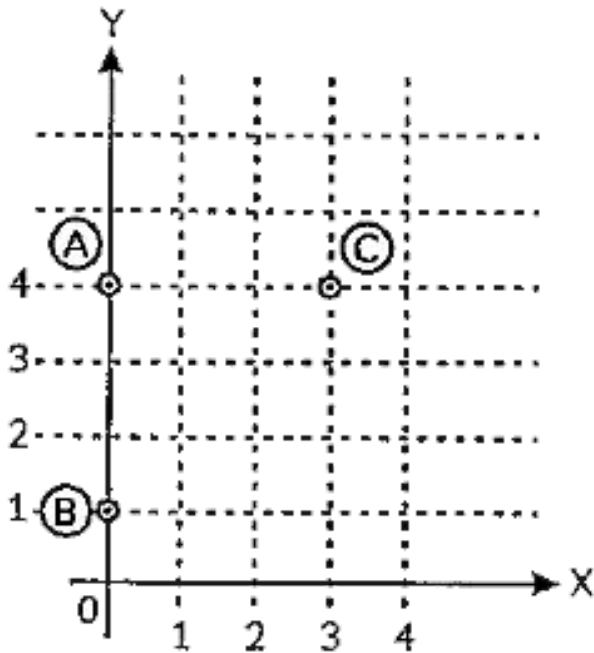
Answer: B



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9. Three sports incharge are sitting at positions A, B are C to monitor the activity of students in the playground They are conducting the physical

education exam of students. The position of three instructors are shown on the coordinate axes. In School play ground there sports incharge are sittign at positions located by the points A, B and C on coordinate axes as point A, B and C.



Evaluate the distance BC.

A. $4\sqrt{2}$ units

B. $3\sqrt{2}$ units

C. $2\sqrt{2}$ units

D. $2\sqrt{3}$

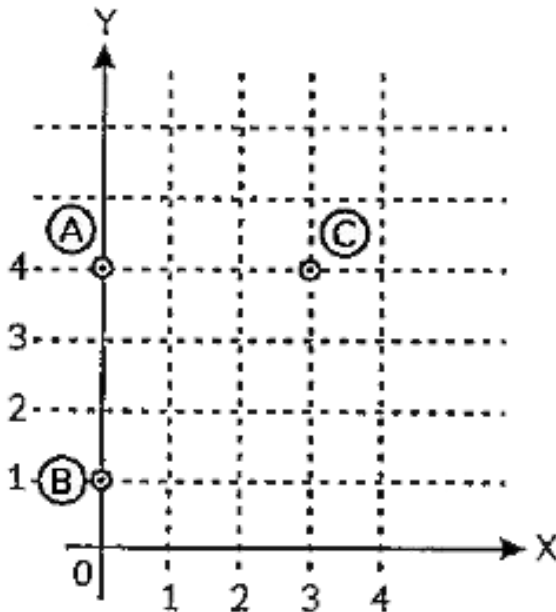
Answer: B



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10. Three sports incharge are sitting at positions A, B are C to monitor the activity of students in the playground They are conducting the physical education exam of students. The position of three instructors are shown on the coordinate axes. In

School play ground there sports incharge are
sitting at positions located by the points A, B and
C on coordinate axes as point A, B and C.



ΔABC is

A. an equilateral triangle

B. a scalene triangle

C. an isosceles right angled triangle

D. an isosceles triangle

Answer: C



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Section A

1. Find the value of k , if one of the zeroes of the polynomial $f(x) = (k^2 + 8)x^2 + 13x + 6k$ is reciprocal of the other.

A. 2,4

B. 3,5

C. 1,3

D. -1,1

Answer: A



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2. Find the distance between the points

$$\left(-\frac{8}{5}, 2\right) \text{ and } \left(\frac{2}{5}, 2\right)$$

A. 5 units

B. $\frac{7}{5}$ units

C. 2 units

D. $\frac{14}{5}$ units

Answer: C



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3. If the area of a circle is numerically equal to twice its circumference, then what is the diameter of the circle?

A. 2 units

B. 4 units

C. 6 units

D. 8 units

Answer: B



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4. Simplify : $\frac{(2\sqrt{45} + 3\sqrt{20})}{2\sqrt{5}}$

- A. rational number
- B. irrational number
- C. prime number
- D. co-prime number

Answer: A



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5. If $\triangle ABC \sim \triangle DEF$ such that $AB=1.2$ cm and $DE=1.4$ cm, the ratio of the areas of $\triangle ABC$ and $\triangle DEF$ is :

A. 49 : 36

B. 6 : 7

C. 7 : 6

D. 36 : 49

Answer: D



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6. Evaluate for what value of c the system of linear equations $cx + 3y = 3$, $12x + cy = 6$ has no solution.

A. -6

B. 0

C. 6

D. 12

Answer: A



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7. What is the value of $\frac{\sin 45^\circ}{\sec 30^\circ + \operatorname{cosec} 30^\circ}$?

A. $(\sqrt{3} - 1)$

B. $\frac{\sqrt{3}(\sqrt{3} - 1)}{4\sqrt{2}}$

C. $4\sqrt{2}$

D. $\sqrt{3}(\sqrt{3} - 1)$

Answer: B



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8. Finding the probability of getting at most one head (tail) / exactly two head(tail) if two coins are tossed

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

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

C. $\frac{1}{4}$

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

Answer: A



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9. What is the probability of not getting a prime number in a single throw of a die ?

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

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

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

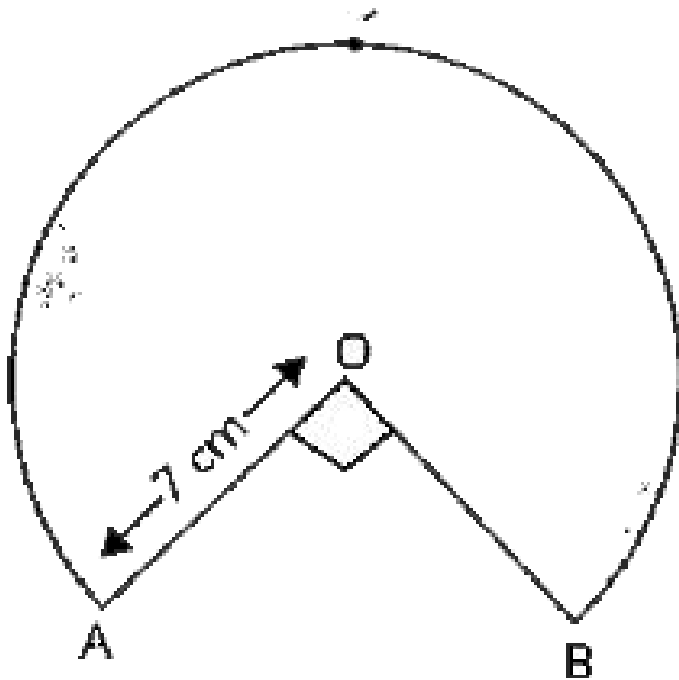
D. $\frac{1}{4}$

Answer: A



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10. The perimeter of the given figure is :



A. 35 cm

B. 47 cm

C. 33 cm

D. 11 cm

Answer: B



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11. The ratio in which the point, $P(-3,x)$ divide the line segment joining the points $A(-5,-4)$ and $B(-2,3)$ is :

A. 3: 2

B. 4: 7

C. 2: 1

D. 5: 3

Answer: C



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12. Meena went to a bank to withdraw Rs 2000. She asked the cashier to give her Rs 50 and Rs 100 notes only. Meena got 25 notes in all. Find how many notes Rs 50 and Rs 100 she received.

A. $50x + 100y = 2000, x + y = 25$

B. $x + 50y = 100, 100x + y = 2000$

C. $x + y = 25, 100x + 50y = 2000$

D. $50x + y = 100, x + 100y = 2000$

Answer: A



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13. Find the value of $\alpha\beta^2 + \beta\alpha^2$, if α and β are the zeroes of polynomial $3x^2 + 4x + 2$.

A. $\frac{3}{7}$

B. $\frac{1}{9}$

C. $-\frac{8}{9}$

D. $\frac{7}{8}$

Answer: C



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14. After how many places of decimal, will the decimal expansion of $\frac{141}{120}$ terminate ?

A. 1

B. 2

C. 3

D. 4

Answer: C



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15. Points $A(-1, y)$ and $B(5, 7)$ lie on a circle with centre $O(2, -3y)$. Find the values of y .

A. 7,3

B. $-1, 7$

C. 1,7

D. 7,2

Answer: B



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16. What are the coordinates of the centroid of the triangle having vertices as $(a,b-c)$, $(b,c-a)$ and $(c,a-b)$?

A. $(1,1)$

B. $\left(\frac{a+b+c}{3}, 0\right)$

C. $(0,0)$

D. $\left(0, \frac{b}{3}\right)$

Answer: B



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17. Find the ratio of circumferences of two circles, whose areas are in the ratio of 16 : 25.

A. 16 : 25

B. 4 : 5

C. 5 : 4

D. 25 : 16

Answer: B



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18. A quadratic polynomial with zeroes -2 and 3, is

:

A. $3x^2 - 2x + 6$

B. $2x^2 + 3x - 6$

C. $x^2 - 2x + 6$

D. $x^2 - x - 6$

Answer: D



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19. What are the coordinates of the point, which divides the join of the points (5,0) and (0,4) in the ratio 2 : 3 internally ?

A. (8,-3)

B. (6,5)

C. $\left(3, \frac{8}{5}\right)$

D. $\left(\frac{5}{2}, 2\right)$

Answer: C



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20. Two given lines represent a pair of inconsistent linear equations, then both lines must be :

- A. Intersecting at one point
- B. coincident
- C. parallel
- D. intersecting at two points

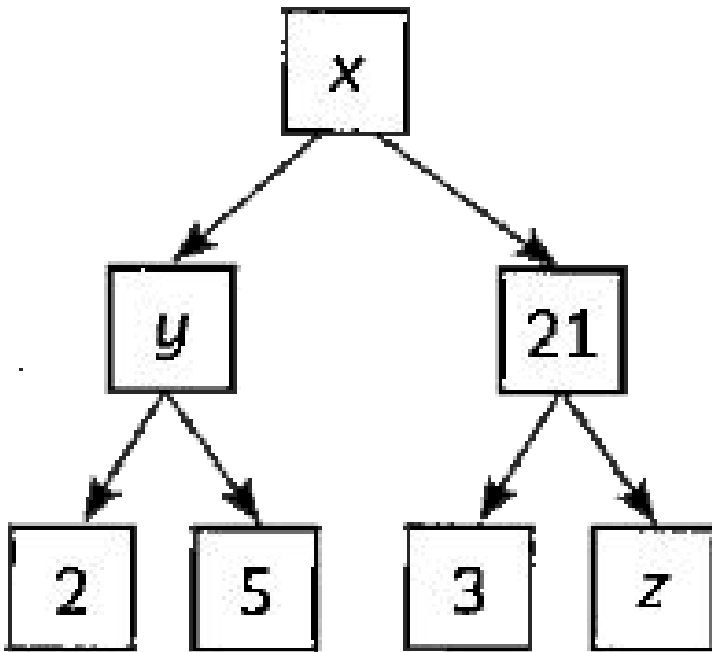
Answer: C



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Section B

1. From the given factor tree, the values of x, y, z respectively are :



A. 210,7,10

B. 210,10,7

C. 105,5,10

D. 105,10,5

Answer: B



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2. If 2 and 0 are the zeros of the polynomial

$f(x) = 2x^3 - 5x^2 + ax + b$ then find the values

of a and b.

A. 2,0

B. 0,2

C. $-1, 1$

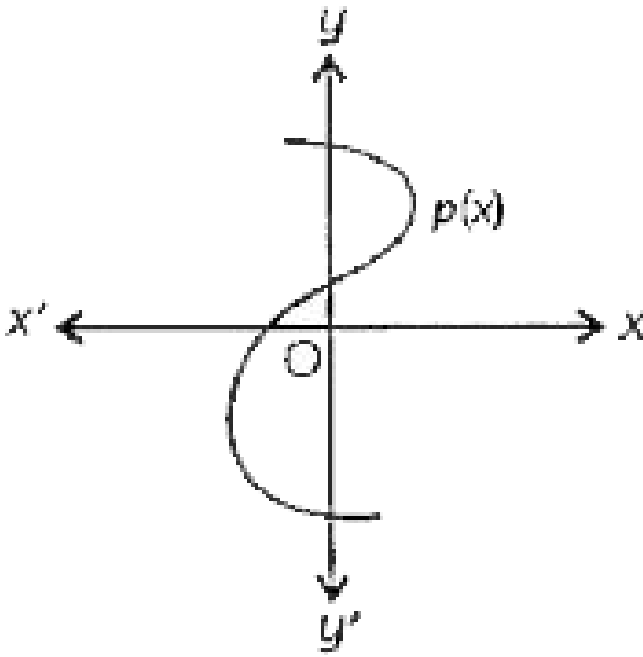
D. 5,3

Answer: A



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3. Calculate the number of zeroes for the graph of a polynomial $p(x)$ as shown below:



A. 0

B. 1

C. 2

D. 3

Answer: B



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4. If a point (x,y) is equidistant from the points $A(9,8)$ and $B(17,8)$, then the relation between x and y is :

A. $x + y = 13$

B. $x - 13 = 0$

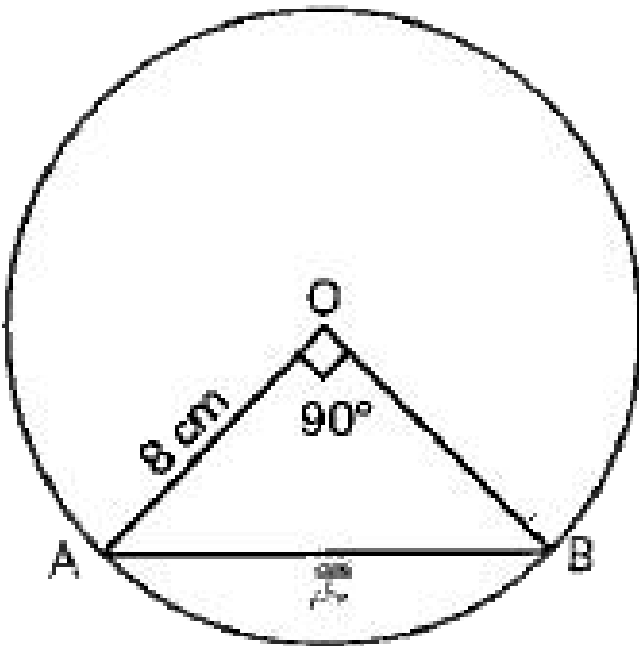
C. $y - 13 = 0$

D. $x - y = 13$

Answer: B



5. Shaurya is making a greeting card for the father's day. In the card, the shaded part is folded. What is the area of the region folded in the greeting card ?



A. $16(\pi - 2)cm^2$

B. $8(\pi^2 - 2)cm^2$

C. $16\pi cm^2$

D. $\frac{7\pi}{2}cm^2$

Answer: A



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6. If (a,b) is the mid - point of the line segment joining the points A $(10,-6)$, B $(k,4)$ and $a-2b =18$, then find the value of k and the distance AB.

A. 30

B. 22

C. 4

D. 40

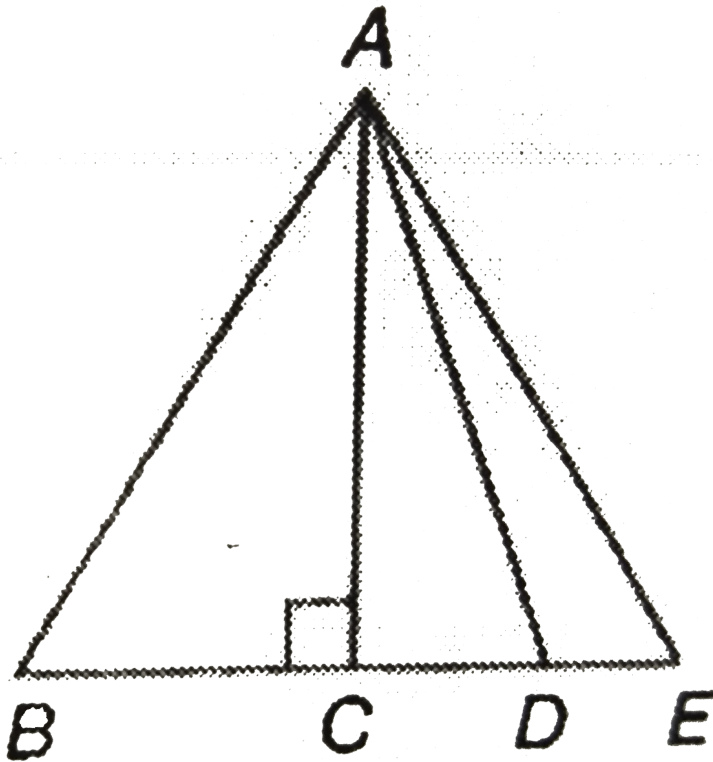
Answer: B



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7. In the given figure (not to scale), AC is the median as well as altitude to BD . In $\triangle ACE$, AD is the median to CE . Which of the following is

true?



A. $\triangle ADE$

B. $\triangle DAE$

C. $\triangle DEA$

D. $\triangle AED$

Answer: D



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8. If $\tan (A+B) = 1$ and $\tan (A-B) = \frac{1}{\sqrt{3}}$, $0^\circ < A + B < 90^\circ$, then the value of $\sin (3A-7B)$ is :

A. $\frac{\sqrt{3}}{2}$

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

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

D.1

Answer: A



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9. Tours of the regional capital and the white house begin at 8.30 am from tour agency. Tours for the regional capital leave every 15 min. Tours for the white house leave every 20 min. After many minutes do the tours leave at the same time ?

A. 60 min

B. 50 min

C. 1 hr 5 min

D. 15 min

Answer: A



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10. Calculate the value of $\text{HCF}(8,9,25) \times \text{LCM}(8,9,25)$.

A. 500

B. 1800

C. 200

D. 2500

Answer: B



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11. Two angles are supplementary to each other. The larger of two supplementary angles exceeds the smaller by 20° . Find the smaller angle.

A. 60°

B. 80°

C. 65°

D. 75°

Answer: B



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12. On rolling two dice at once, what is the probability of getting a sum of doublet less than 5?

A. $\frac{1}{6}$

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

C. $\frac{1}{18}$

D. $\frac{3}{7}$

Answer: C



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13. Prove that the points $(3, 0)$, $(6, 4)$ and $(-1, 3)$ are the vertices of a right angled isosceles triangle.

A. collinear

B. right triangle

C. equilateral triangle

D. isosceles right angled triangle

Answer: D



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14. If $4^{x+y} = 256$ and $(256)^{x-y} = 4$. what are the values of x and y ?

A. $\left(\frac{1}{8}, \frac{17}{18}\right)$

B. $\left(\frac{13}{8}, \frac{15}{8}\right)$

C. $\left(\frac{17}{8}, \frac{15}{8}\right)$

D. $\left(\frac{13}{8}, \frac{11}{8}\right)$

Answer: C



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15. Calculate the HCF of p^3q^2 and p^2q , provided that p and q are prime numbers :

A. pq

B. pq^2

C. p^2q

D. p^2q^2

Answer: C



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16. Find the decimal expansion of the rational

number $\frac{14587}{1250}$.

A. 11.6696

B. 12.6182

C. 9.3120

D. 10.717

Answer: A



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17. The line segment joining the points $A(3, -4)$ and $B(1, 2)$ is trisected at the points $P(p, -2)$ and $Q\left(\frac{5}{3}, q\right)$. Find the values of p and q .

A. $0, \frac{7}{3}$

B. $\frac{7}{3}, 0$

C. $\frac{8}{3}, -1$

D. $-1, \frac{8}{3}$

Answer: B



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18. Calculate the number of solutions for the pair of linear equations $y=0$ and $y=7$.

A. 2

B. 3

C. 0

D. 1

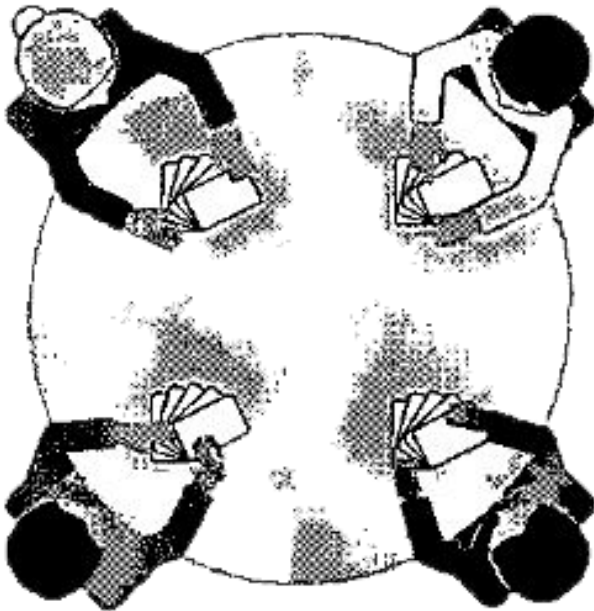
Answer: C



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19. Rita, Sita, Gita and Shyama are playing a bridge game. It is a four persons play and a pair of two-two persons as a partner is mode.

A deck of 52 playing cards is distributed around the table clockwise.



Find the probability that the card drawn is a queen of black colour.

A. $\frac{5}{26}$

B. $\frac{1}{26}$

C. $\frac{3}{26}$

D. $\frac{25}{26}$

Answer: B



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20. Which of the following is a zero of the polynomial $x^2 + 6x + 9$?

A. 2

B. -1

C. -3

D. 0

Answer: C



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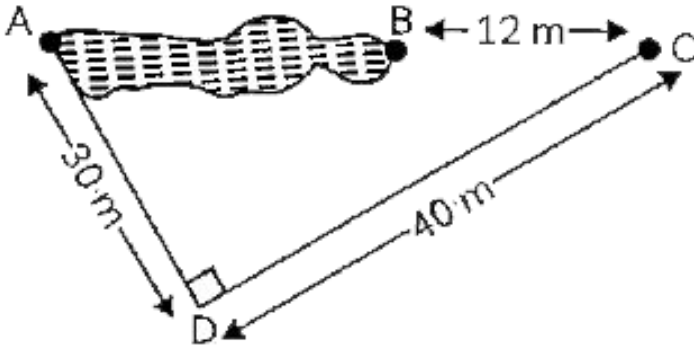
1. Case Study :

Suresh wants to measure the distance of a pond during the visit to his native. He marks points A and B

on the opposite edges of the pond as shown in the figure below. To find the distance between the points, he makes a right-angled triangle using rope connecting B with another point C are at a distance

of 12 m, connecting C to point D at a distance of 40 m from point C and the connecting D to the point A which is at a distance of 30 m from D such

that $\angle ADC = 90^\circ$



Which property of geometry will be used to find the distance AC ?

- A. Similarity of triangles
- B. Thales theorem
- C. Pythagoras theorem
- D. Area of similar triangles

Answer: C



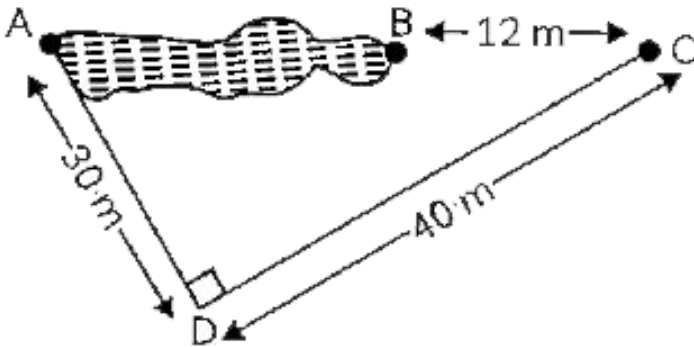
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2. Case Study :

Suresh wants to measure the distance of a pond during the visit to his native. He marks points A and B

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of 12 m, connecting C to point D at a distance of 40 m from point C and the connecting D to the point A which is at a distance of 30 m from D such that $\angle ADC = 90^\circ$



What is the distance AC ?

- A. 50 m
- B. 12 m
- C. 100 m

D. 70 m

Answer: A



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3. Which of following does not form a Pythagoras triplet ?

A. (7,24,25)

B. (15,8,17)

C. (5,12,13)

D. (21,20,28)

Answer: D



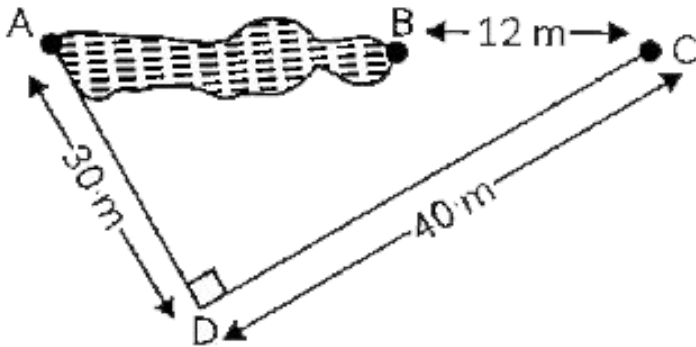
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4. Case Study :

Suresh wants to measure the distance of a pond during the visit to his native. He marks points A and B

on the opposite edges of the pond as shown in the figure below. To find the distance between the points, he makes a right-angled triangle using rope connecting B with another point C are at a distance

of 12 m, connecting C to point D at a distance of 40 m from point C and the connecting D to the point A which is at a distance of 30 m from D such that $\angle ADC = 90^\circ$



Find the length AB .

A. 12 cm

B. 38 m

C. 50 m

D. 100 m

Answer: B



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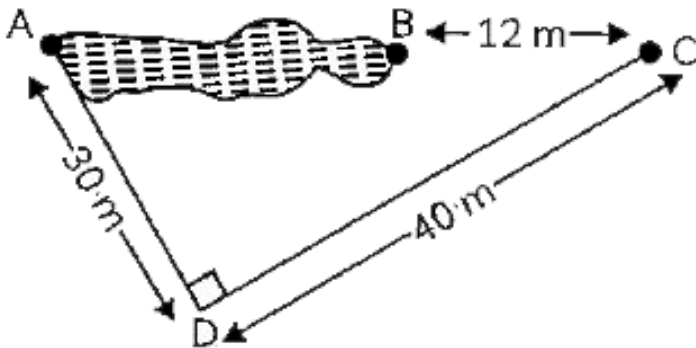
5. Case Study :

Suresh wants to measure the distance of a pond during the visit to his native. He marks points A and B

on the opposite edges of the pond as shown in the figure below. To find the distance between the points, he makes a right-angled triangle using

rope connecting B with another point C are at a distance

of 12 m, connecting C to point D at a distance of 40 m from point C and the connecting D to the point A which is at a distance of 30 m from D such that $\angle ADC = 90^\circ$



Find the length of rope used.

A. 120 m

B. 70 m

C. 82 m

D. 22 m

Answer: C



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6. Stationary sound 'S' of frequency 334 Hz and a stationary observer 'O' are placed near a reflecting surface moving away from the source with velocity 2 m/s the apparent frequency of the echo of S considering velocity of sound equal to 334 m/s is

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A. $\frac{12}{13}$

B. $\frac{13}{12}$

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

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

Answer: D



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7. In $\triangle ABC$, right angled at A, $AC = 12\text{cm}$ and $BC = 15\text{cm}$ The value of $\tan B$ is :

A. $\frac{12}{9}$

B. $\frac{9}{12}$

C. $\frac{15}{12}$

D. $\frac{15}{9}$

Answer: A



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8. In $\triangle ABC$, right angled at C, $AB = 15cm$ and $BC = 9cm$

Then value of $\sin^2 A + \cos^2 B$ is :



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9. In $\triangle ABC$, right angled at C, $AB = 15cm$ and $BC = 9cm$

The value of $\sin^2 A + \cos ec^2 A$ is :



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10. In $\triangle ABC$, right angled at C, $AB = 15\text{cm}$
and $BC = 9\text{cm}$

The value of $\cot^2 B$ is :



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