MATHS

BOOKS - EDUCART PUBLICATION

SAMPLE PAPER -5

Section A

1. The largest number which divides 70 and 125, leaving remainder 5 ad 8 resepectively, is

A. 5

B. 13

C. 9

D. 11

Answer: B

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2. If k + 1 = $\sec^2 A$(1 - sin A) (1 + sin A), then the value of k is:

A. 0

B. 1

C. 2

D. 3

Answer: A

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3. Find the length of diagonals of a rectangle AOBC whose three vertices are A(0, 3),O(0, 0) and B(5, O).

A. $\sqrt{23}$ units

B. 5 units

C. $\sqrt{21}$ units

D. `sqrt(34)units

Answer: D

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4. A wire, bent in the form of a square, encloses an area of 121 cm^2. If the same wire is

bent in the form of a circle, then the circumference of the circle is:

A. 11 cm

B. 22 cm

C. 33 cm

D. 44cm

Answer: D

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5. If the distance between the points A(-3, -14) and B(p, -5) is 9 units, then the value of p is:

A. 1

B. -7

C. -3

D. 5

Answer: C

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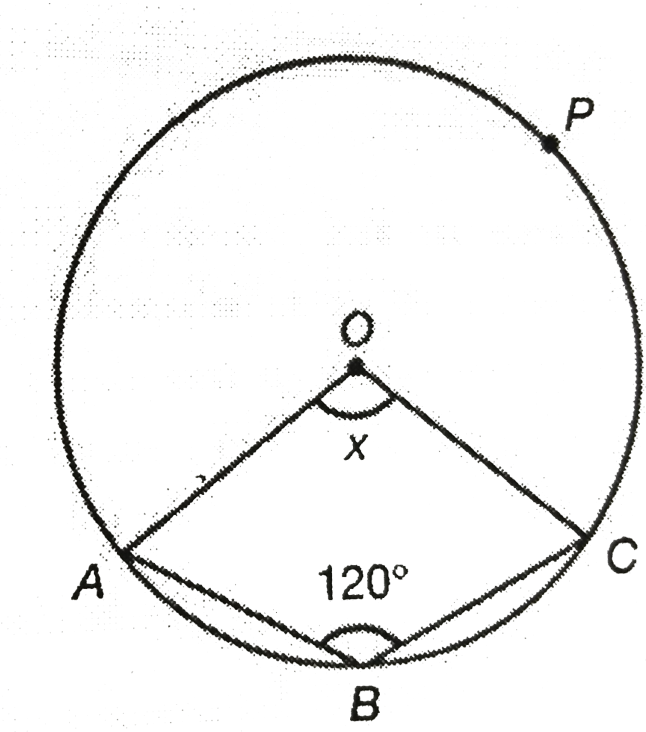
6. In fig. O is the center of the circle. Find the value of x.



A. 2

B. 4

C. 7

D. 11

Answer: A

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

A. 0

B. 1

C. 2

D. 3

Answer: A

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8. On choosing a letter randomly from the letters of the word 'ASSASSINATION', the probability that the letter chosen is a vowel is in the form of 6/(2x+1)Then x is equal to:

A. 8

B. 7

C. 6

D. 5

Answer: C

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9. If the diameter of a wheel is 1.54 m, then the distance covered by it in 100 revolutions is:

A. 143 m

B. 275 m

C. 484m

D. 396cm

Answer: C

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10. 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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11. Two dice are thrown together. Then the probability that sum of the two numbers on the dice will be multiple of 4 is:

A. 0.75

B. 0.25

C. 0.5

D. 0

Answer: B

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12. Evaluate the zeroes of the polynomial $2x^2$ + 14x+ 20

A. $-2, \ -5$

B. 2, 5

C. $-2, 5$

D. $-5, 2$

Answer: A

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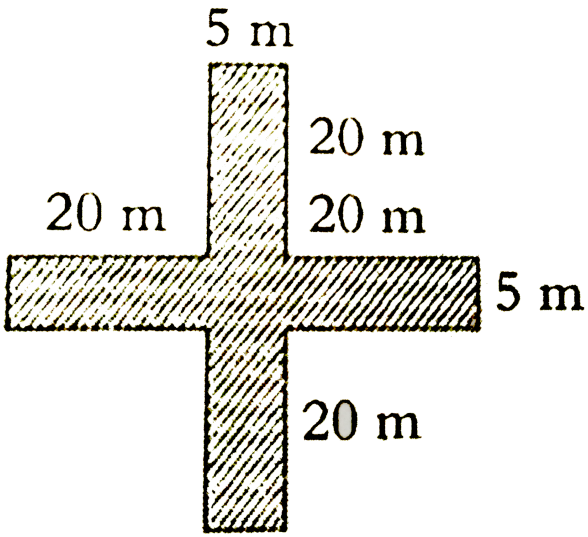
13. Find the area of the figure given below.



A. 10 cm

B. 12 cm

C. 8 cm

D. 16 cm

Answer: D

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14. Find the value of (x, y), if centroid of the triangle with vertices (x, 0), (0, y) and (6, 3) is (3, 4).

A. (3, 0)

B. (6, 6)

C. (3, 9)

D. (-6, 8)

Answer: C

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15. In which quadrant does the mid-point of the line segment joining the points (-1, 2) and (3, 4) Lies?

A. I

B. II

C. III

D. IV

Answer: A

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16. If $\frac{241}{4000} = \frac{241}{2^m \times 5^n}$ then find the value of m + n, where m and n are non-negative integers.

A. 10

B. 8

C. 6

D. 7

Answer: B

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17. If $\cos ecA = 2$, find the value of $\frac{1}{\tan A} + \frac{\sin A}{1 + \cos A}$

A. 2

B. 0

C. 1

D. -1

Answer: A

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18. 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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19. Calculate the product of LCM and HCF of 4 and 18.

A. 72

B. 80

C. 82

D. 66

Answer: A

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20. The value of $\frac{\sin^3\theta + \cos^3\theta}{\sin\theta + \cos\theta}$ +sin θ cos θ is:

A. sin θ cos θ

B. tan θ

C. cotθ

D. 1

Answer: D

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Section B

1. 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. 0.11111111111111

B. 0.22222222222222

C. 0.33333333333333

D. 0.28571428571429

Answer: B

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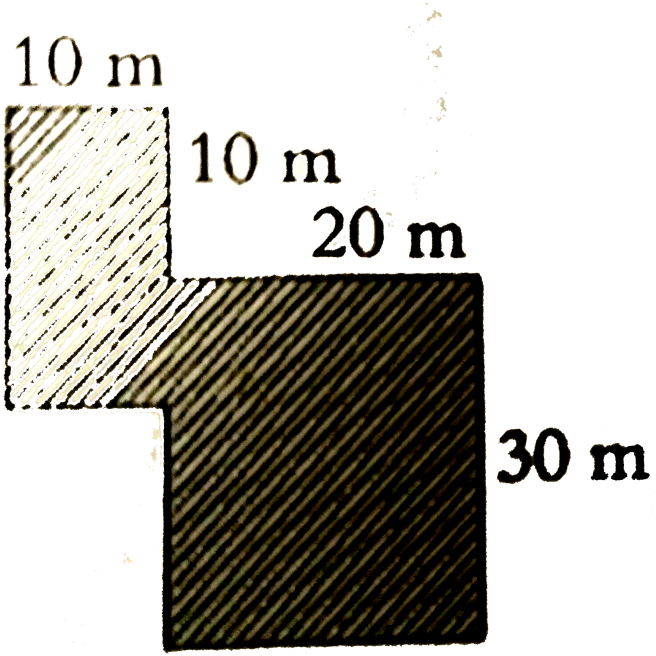
2. Find the perimeter of the figure given below.



A. 21 cm

B. 42 cm

C. 35 cm

D. 66 cm

Answer: D

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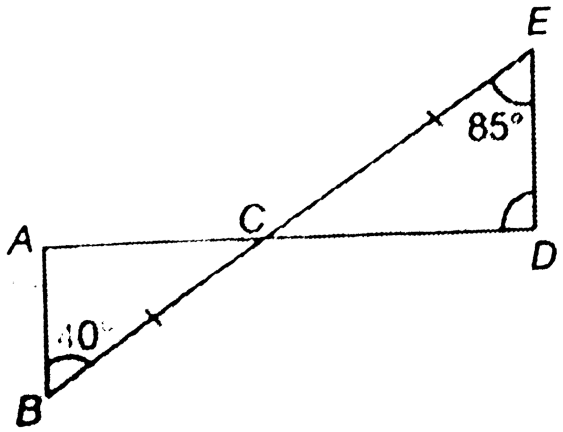
3. In the given figure, $\overline{AD}$ and $\overline{BE}$ intersect at C, such that BC = CE, $\angle ABC = 40^\circ$ and

$\angle DEC = 85^\circ$. Find $\angle BAC - \angle CDE$.



A. 45°

B. 60°

C. 13°

D. 40°

Answer: D

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4. The areas of two similar triangles are 121 cm^2 and $64cm^2$ respectively. If the median of the first triangle is 12.1 cm, then the corresponding median of the other is :

A. 6.4 cm

B. 8.8 cm

C. 9.6 cm

D. 7.6 cm

Answer: B

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5. Find the value of $\frac{1}{\alpha}+\frac{1}{\beta}$ are the zeroes of the polynomial x^2 + x + 1.

A. 1

B. 0

C. -1

D. 2

Answer: C

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6. On choosing a number x from the numbers 1, 2, 3 and a number y from the numbers 1, 4, 9, the probability of $P(xy < 9)$ is:

A. 0.55555555555556

B. 0.11111111111111

C. 0.44444444444444

D. 0.33333333333333

Answer: A

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7. Find the value of n if a= 2^3 x 3, b = 2 x 3 x 5, c = 3^n x 5 and LCM (a, b, c) = 2^3 x 3^2 x 5.

A. 1

B. 2

C. 3

D. 4

Answer: B

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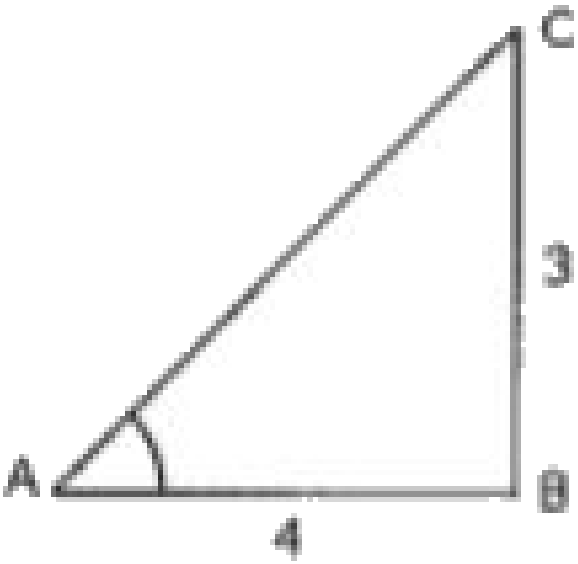
8. From the following figure, the value of sin A cos A + sin C cos C is:



A. (12)/5

B. (24)/(25)

C. 7/(12)

D. 7/(24)

Answer: B

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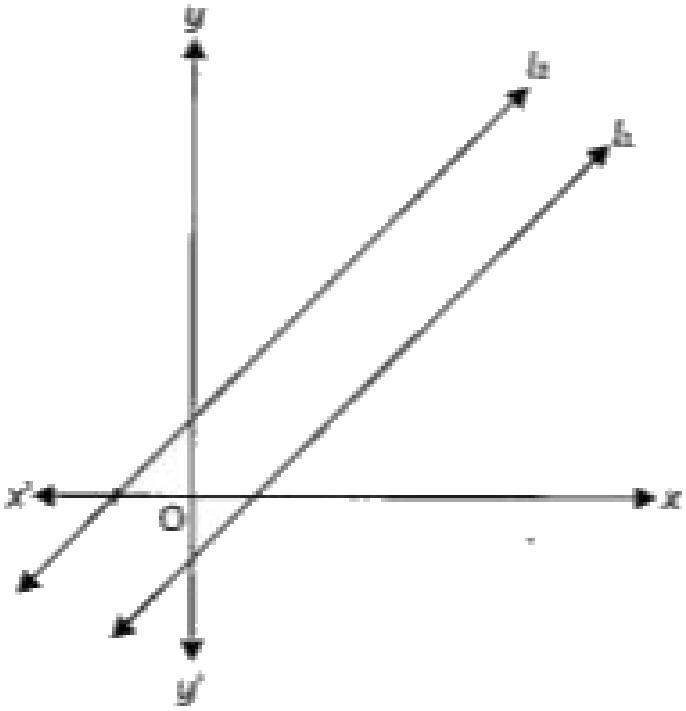
9. The number of solutions of the pair of linear equations, shown in the graph is:



A. Infinite

B. Two

C. Unique

D. No solution

Answer: D

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10. In a Δ ABC , DE||BC if DE=$\frac{2}{3}$ BC and area of ΔABC =81cm^2 find the area of ΔADE

A. 24 cm^2

B. 16 cm^2

C. 36 cm^2

D. 32 cm^2

Answer: C

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11. ABC is an isosceles triangle, which is right angled at B with AB = 4 cm. What is the length of AC?

A. 2 cm

B. $2\sqrt{2}$ cm

C. 4 cm

D. $4\sqrt{2}$ cm

Answer: D

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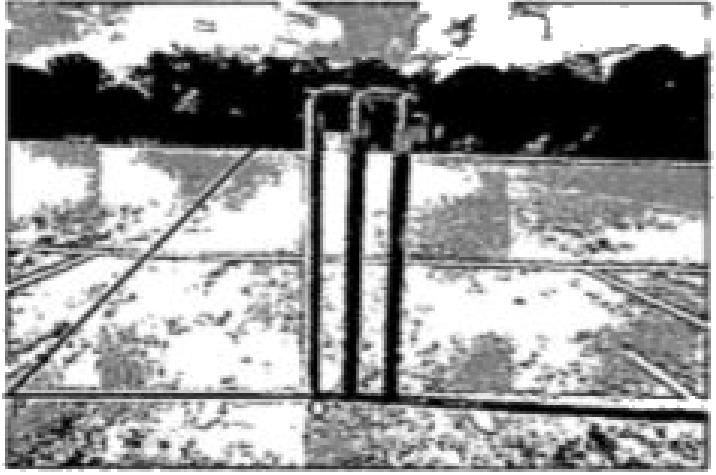
12. Amit and Prem are very good cricketers and also represented their school team at district and even state levels. One day, after their match, they measured the height of the wickets and found it to be 28 inches. They marked a point . P on the ground as shown in the figure below:



,

If cot $P = \frac{3}{4}$ the length of PQ is:

A. 3 in

B. 7 in

C. 21 in

D. 35 in

Answer: C

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

A. only factor

B. LCM

C. HCF

D. The two factors

Answer: C

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14. If one of the zeroes 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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15. An arc of length of length 19 cm of a circle of radius 30 cm, subtends an angle θ at the centre O. The value of θ is:

A. 30°

B. 37°

C. 45°

D. 52°

Answer: B

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16. Evaluate $\sin^2\theta$ - $\cos^2\theta$, if $\sqrt{3}\tan\theta = 3\sin\theta$, $\theta = 0$ and θ is an acute angle.

A. 1

B. 0.33333333333333

C. -0.33333333333333

D. -1

Answer: B

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17. How many zeroes will be there for the polynomial f(x) = $(x-2)^2 + 4$?

A. 0

B. 1

C. 2

D. 3

Answer: A

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18. Calculate the minimum number by which $\sqrt{8}$ should be multipled so as to get a rational number

A. $\sqrt{2}$

B. $\sqrt{3}$

C. $\sqrt{5}$

D. $\sqrt{6}$

Answer: A

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19. Find the value of x if $\frac{4-\sin^2 45^\circ}{\cot x . \tan 60^\circ} = 3.5$.

A. 0°

B. 15°

C. 30°

D. 60°

Answer: D

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Section C

1. If $\Delta ABC \sim \Delta PQR$, then evaluate the length of AC, if perimeter of $\Delta ABC = 20$ cm, perimeter of $\Delta PQR = 40$ cm and $PR = 8$ cm.

A. 4 cm

B. 6 cm

C. 10 cm

D. 3 cm

Answer: A

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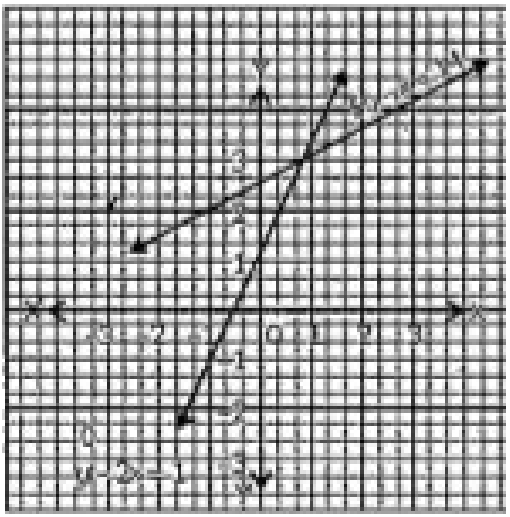
2. Sam went for an outing with his friends.They went to dominos to enjoy the delicious pizza. He was enjoying the pizza with his friends and share with them by slicing it. During slicing the pizza. he noticed that the pair of linear equations formed. (i.e.,straight lines) Let these pair of linear equations be $y - 2x = 1$ and $5y-x=14$.



What is the point of intersection of the lines represented by the equations y - 2x = 1 and 5y-x=14?

A. (1, 3)

B. (6, 4)

C. (-2, 3)

D. (-4, 2)

Answer: A

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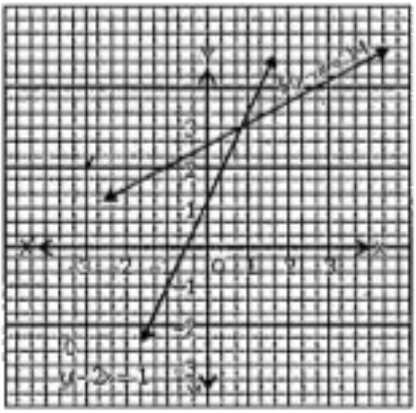
3. Sam went for an outing with his friends.They went to dominos to enjoy the delicious pizza. He was enjoying the pizza with his friends and share with them by slicing it. During slicing the pizza. he noticed that the pair of linear equations formed. (i.e.,straight lines) Let these

pair of linear equations be y - 2x = 1 and 5y-x=14.



At what point, does the linear equation y - 2x = 1 intersect the y-axis?

A. (0, 1)

B. (-1/2,0)

C. (0,(14/5)

D. (0, -14)

Answer: A

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4. Sam went for an outing with his friends.They went to dominos to enjoy the delicious pizza. He was enjoying the pizza with his friends and share with them by slicing it. During slicing the pizza. he noticed that the pair of linear equations formed. (i.e.,straight

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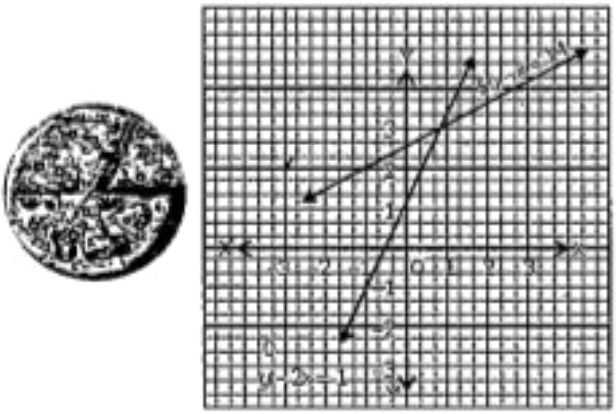

The system of linear equations 2x - 3y + 6 =0 and 2x+ 3y--18 = 0 has :

A. has infinitely many solutions

B. has no solution

C. has a unique solution

D. May or may not have a solution

Answer: C

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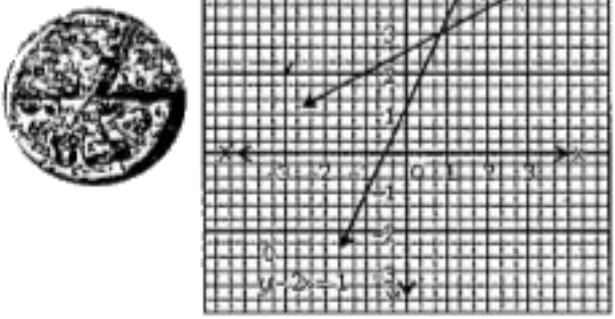

For what value(s) of k, the system of linear equations 2x-ky + 3 = 0 and 3x+ 2y,-1=0 has no solution

A. -6

B. 6

C. 1.3333333333333

D. -1.3333333333333

Answer: D

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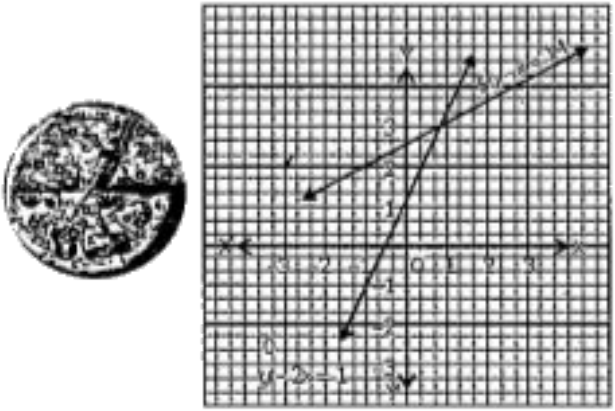
6. Sam went for an outing with his friends.They went to dominos to enjoy the delicious pizza. He was enjoying the pizza with his friends and share with them by slicing it. During slicing the pizza. he noticed that the pair of linear

equations formed. (i.e.,straight lines) Let these pair of linear equations be y - 2x = 1 and 5y-x=14.



If a pair of linear equations in two variables is inconsistent, then the lines represented by two ·equations are:

A. parallel

B. intersecting

C. always coincident

D. Intersecting or coincident

Answer: A

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7. Find the ratio in which $C(1, -3)$ divides the line joining $W(-4, -3)$ and $E(5, -3)$.

A. 0.21111111111111

B. 0.21041666666667

C. 0.086805555555556

D. 0.042361111111111

Answer: B

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8. What is the ratio in which x-axis divides the line joining the points $P(-4, 8)$ and $D(5, -4)$?

A. 0.042361111111111

B. 0.17013888888889

C. 0.084027777777778

D. 0.33541666666667

Answer: C

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9. What is the ratio in which y-axis divides the line joining the points $L(4, 9)$ and $U(-7, 2)$?

A. 0.044444444444444

B. 0.29791666666667

C. 0.17152777777778

D. 0.37638888888889

Answer: C

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10. What is the distance of point $K(-4, 8)$ from the origin?

A. 3 units

B. $4\sqrt{5}$ units

C. 7 units

D. 10 units

Answer: B

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11. A page from Richa's pass book is given below. Answer the following question by finding the missing entries. She closes her

account on $30 - 6 - 2007$.

Date	Particulars	Amount With drawn (₹)	Amount deposited (₹)	Balance (₹)
5-1-2007	By Cash		500.00	500.00
23-1-2007	By Cash		6000.00	6500.00
8-2-2007	By Cash	(missing entry)		8000.00
13-2-2007	To self	(missing entry)		5000.00
18-2-2007	By Cash		2000.00	(missing entry)
9-3-2007	By Cash		5000.00	12,000.00
15-3-2007	To self	(missing entry)		9000.00
11-4-2007	To self	(missing entry)		5000.00
5-5-2007	By Cash	(missing entry)		10,050.00

Find the amount on which she will receive interest on closing her account.

A. U and G

B. P and L

C. Q and K

D. U qnd F

Answer: D

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