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MATHS

BOOKS - CAMBRIDGE MATHS (KANNADA ENGLISH)

PRACTICE QUESTION PAPER 13

Mcqs

1. If the nth term of an arithmetic progression $a_n = 24 - 3n$, then it's 2nd term is

A. 18

B. 15

C. 0

D. 2

Answer:

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2. The lines represented by $2x+3y-9=0$ and $4x+6y-18=0$ are

A. Intersecting lines

B. $\perp^{\text{lar}}$ lines

C. parallel line

D. coincident

Answer:

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3. A straigth line which passess through two points on a circle is

A. a chord

B. a sectant

C. a tangent

D. radius

Answer:

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4. If the area of circle is 49π sq. units then it's perimeter is

A. 7π units

B. 9π units

C. 14π units

D. 49π units

Answer:

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5. "The product of two consecutive positive integers is 30". This can be expressed algebraically as.

A. $x(x+2)=30$

B. $x(x-2)=30$

C. $x(x-3)=30$

D. $x(x+1)=30$

Answer:

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6. If a and b are any two positive integers then

HCF (a,b) $\times$ LCM (a,b) is equal to

A. a+b

B. a-b

C. $a \times b$

D. $a \div b$

Answer:

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7. $\cos 48^\circ - \sin 42^\circ = ?$

A. 0

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

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

D. 1

Answer:

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8. If $P(A) = 0.05$ the $P(\overline{A})$ is

A. 0.59

B. 0.95

C. 1

D. 1.05

Answer:

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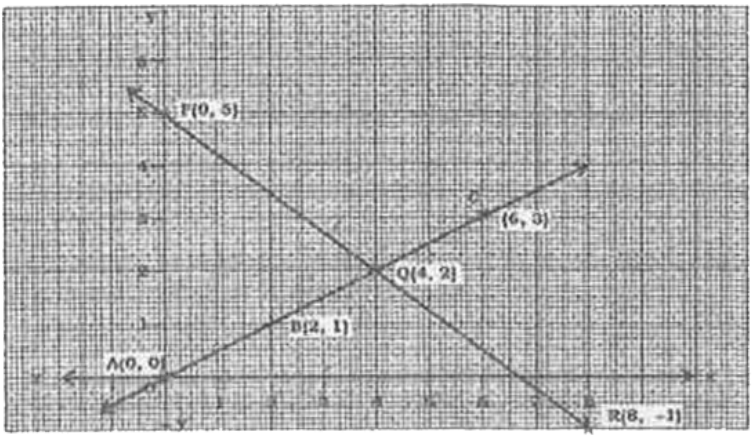
Answer The Following Questions

1. The given graph represents a pair of linear equations in two variables : write how many

solutions these pair of equations have



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2. 17 = 6×2+5 is compared with Euclid's Division lemma a = bq +r then which number is representing the remainder

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3. Find the zeroes of the polynomial P (x) = $x^2 - 3$

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4. Write the degree of the polynomial P (x) = $2x^3 - x^2 + 5$

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5. Find the value of the discriminant of the quadratic equation $2x^2 - 4x + 3 = 0$

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6. Write the foumula to calculate the curved surface area of the frustum of a cone .

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7. Find the sum of first twenty terms of Arithmetic series 2 +7+12 + $\cdots$ using suitable formula.

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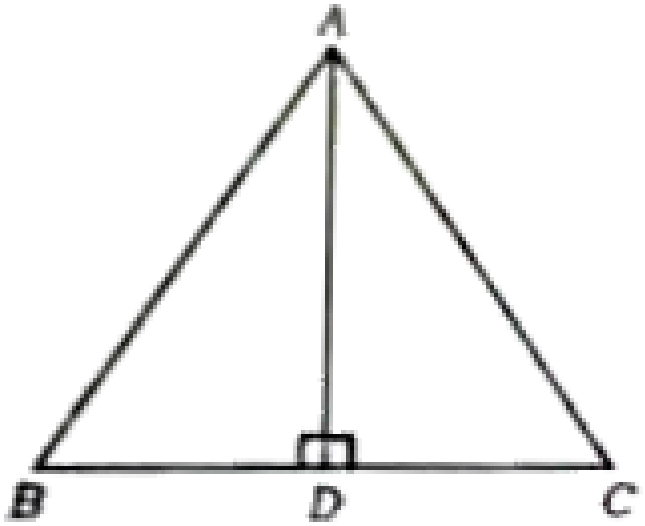
8. In Δ ABC , AD $\perp$ BC and $AD^2 = BD \times CD$. Prove that $AB^2 + AC^2 = (BD + CD)^2$



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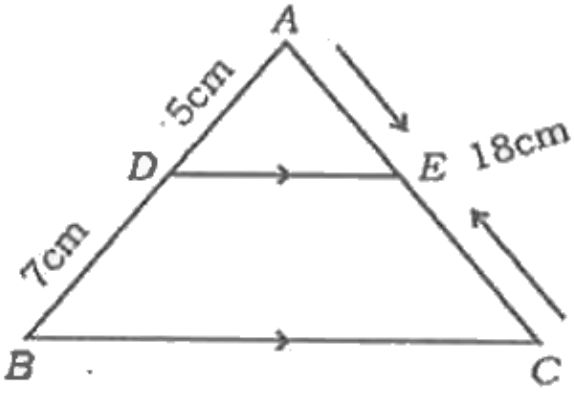
9. In Δ ABC , DE $||$ BC . If AD= 5 cm , BD = 7 cm and AC = 18 cm , find the length of AE.



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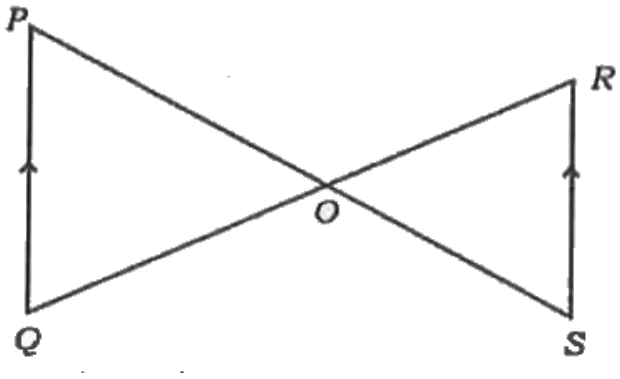
10. In the given figure PQ || RS , prove that $\Delta POQ \sim \Delta SOR$.



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11. Solve the following pair of linear equations by any suitable method.

$x+y = 5$ $2x-3y=5$

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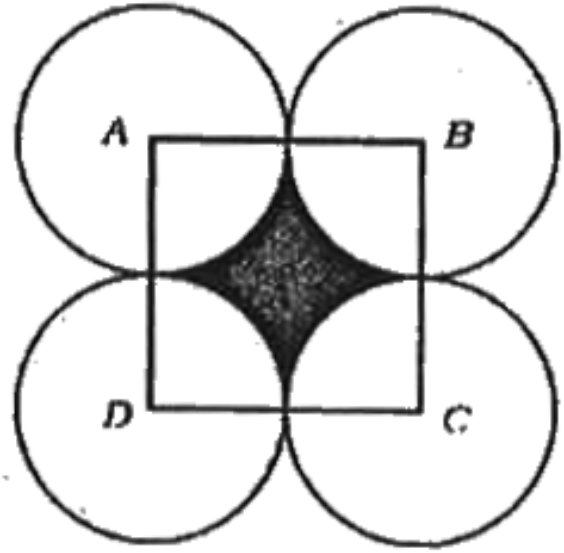
12. In the figure , ABCD is a square of side 14 cm. A, B, C and D are the centres of four congruent circle such that each circle touches

externally two of the remaining three circles .

Find the area of the shaded reginon.



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13. Draw a circle of radius 4 cm and construct a pair of tangents such that the angle between then is 60°.

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14. Find the co - ordinates of points which divides the line segment joining the points A $(4, -3)$ and B (8,5) in the ratio $3:1$ internally .

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15. Prove that $3 + \sqrt{5}$ is an irrational number.

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16. Solve $2x^2$-5x+3 = 0 by using formula.

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17. The length of a rectangular field is 3 time its breadth . If the area of the field is 147 sq.m,

find its length and breadth.

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18. If $\sin\theta = \frac{12}{13}$ find the values of $\cos\theta$ and $\tan\theta$. (2)

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19. If $\sqrt{3}\tan\theta = 1$ and θ is acute, find the value of $\sin 3\theta + \cos 2\theta$

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20. Prove that $\left(\frac{1+\cos\theta}{1-\cos\theta}\right) = (\text{cosec}\theta + \cot\theta)^2$

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21. A cubical die numbered from 1 to 6 are rolled twice . Find the probability of getting the sum of numbers on its faces is 10 .

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22. The radii of two circular ends of a frustum of a cone shaped dustbin are 15 cm and 18 cm . If its depth is 63 cm find the volume of the dustbin

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23. Prove that "the lengths of tangents drawn from an external points to a circle are equal ".

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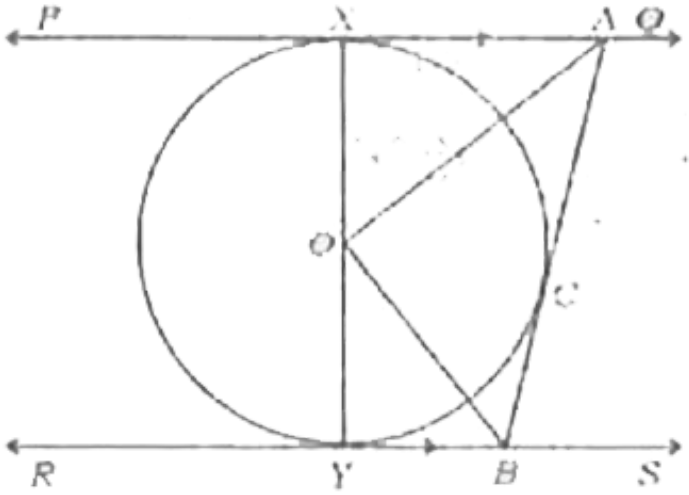
24. In the given figure PQ & RS are two parallel tangents to a circle o and another tangent AB with point of contact C intersecting PQ at A and RS at B. Prove that $\angle AOB = 90^\circ$



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25. Calculate the median of the following frequency distribution tabel :

Class – interval	*Frequency* (f_i)
1 – 4	6
4 – 7	30
7 – 10	40
10 – 13	16
13 – 16	4
16 – 19	4

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26. Calculate the mode for the following frequency distribution table

C - I	Frequency (f_i)
10-25	2
25-40	3
40-55	7
55-70	6
70-85	6
85-100	6
	$\Sigma f_i = 30$

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27. The seventh term of an arithmetic progression is four times itss second term and

twelth term is 2 more than three times of its fourth term. Find the progression.

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28. A line segment is divided into four parts forming an arithmetic progression . The sum of the lengths of 3 rd and 4 th parts is three times the sum of the lengths of first two part. If the length of fourth part is s14 cm, find the total length of the line segment.

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29. The vertices of a ΔABC are A(-3,2) . B (-1,-4) and C(5,2) . If M and N are the mid-points of AB and AC res.ly. Show that 2MN = BC.

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30. The vertices of a ΔABC are A(-5,-1) B(3.-5) , C-(5.2).Show that the area of the ΔABC is four times the area of the triangle formed by joining the mid-points of the sides of the triangle ABC.

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31. Find the sol.n of the following pair of linear by the graphical method.

$2x + y = 6$

$2x - y = 2$

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32. The angle of elevation of the top of a tower from two points at a distance of 4m and 9 m

from the base of the tower and in the same straight line with it are complementary. Prove that the height of the tower is 6m.

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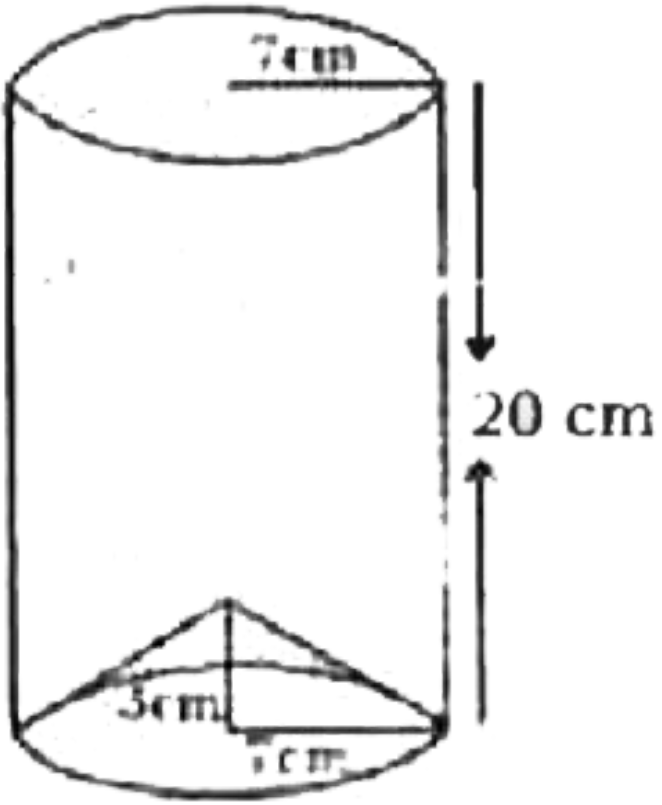
33. The bottom of a light cylindrical shaped vessel made from metallic sheet is closed by a cone shaped vessel as shown in the figure. The radius of the circular base of the cylinder and radius of the circular base of the cone each is equal to 7 cm . If the height of the cylinder is

20 cm & height of the cone is 3 cm, calculate the cost of milk of fill completely this vessel at the rate of Rs. 20/liter.



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34. A hemispherical vessel of radius 14 cm is filled fiuld with sand. This sand is poured on a ground. The heap of sand forms a conc shape of height 7 cm . Calculate the area of ground occupied by the circular base of the heap of the sand.

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