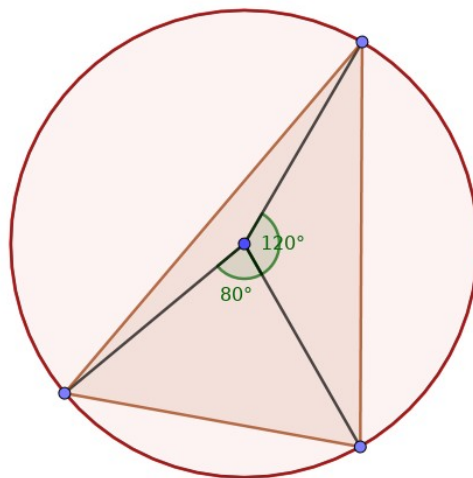


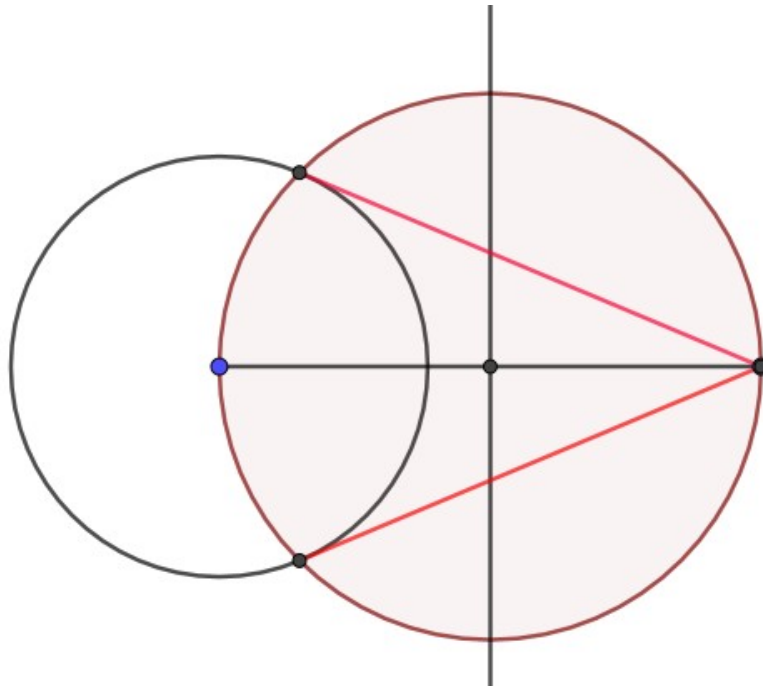
ANSWER KEY S S L C 2023 MATHS

1	7,13,19,.....	
a).	$d=6$	1
b).	$X_{11} = 67$	1
2.	54,55,56,58,60,62,65,65,65,68,70	
	62 Kg	2
3		
a).	$\frac{1}{3}$	1
b).	$\frac{2}{3}$	1
4		
	$AB = 3\sqrt{2}$	2
	5 to 10 questions 3 Marks	
5		
a)	B(8,9) D(3,12)	1
b)	Sides 5,3	2
6		



7		
	$2(l+b) = 80$ $l+b = 40$ $l = x$ $b = 40 - x$ Area = 351 $x(40-x) = 351$ $x^2 - 40x = -351$ $x^2 - 40x + 20^2 = -351 + 20^2$ $(x-20)^2 = 49$ $x-20 = 7$ $x = 27$ $l = 27$, $b = 13$	
8	Slope = $\frac{11-5}{8-4} = \frac{6}{4} = \frac{3}{2}$	
	Equation of line $3x-2y=2$	
9	$x_6 = 46$ $X_{16} = 46 + 10 * 8 = 46 + 80 = 126$ $X_{21} = 126 + 5 * 8 = 126 + 40 = 166$	
10		
	Area = $\frac{1}{2} * 9 * 12 = 54$ sq cm	
	$R = \frac{A}{S} = \frac{54}{18} = 3$ { $S = (12+15+9)/2 = 36/2 = 18$ }	
11		
a	$P(1) = 1$	
b	$P(x) - P(1) = x^2 - 4x + 3$	
c	$(x-3)(x-1)$	
12		
a	$l = 20$	
b	$r = 10$	
c	$CSA = \pi * 10 * 20 = 200\pi$ sq cm	

13



Length of tangents **6 cm** [$t^2 = 6.5^2 - 2.5^2 = 9 \cdot 4$]

14

a $X_4 = \frac{140}{7} = \mathbf{20}$

b $X_6 = \frac{440}{11} = \mathbf{40}$

c $d = \mathbf{10}$

d $F = \mathbf{-10}$

15

a $4 \cdot 5 = \mathbf{20}$

b $\frac{6}{20}$

c $\frac{4}{20}$

16

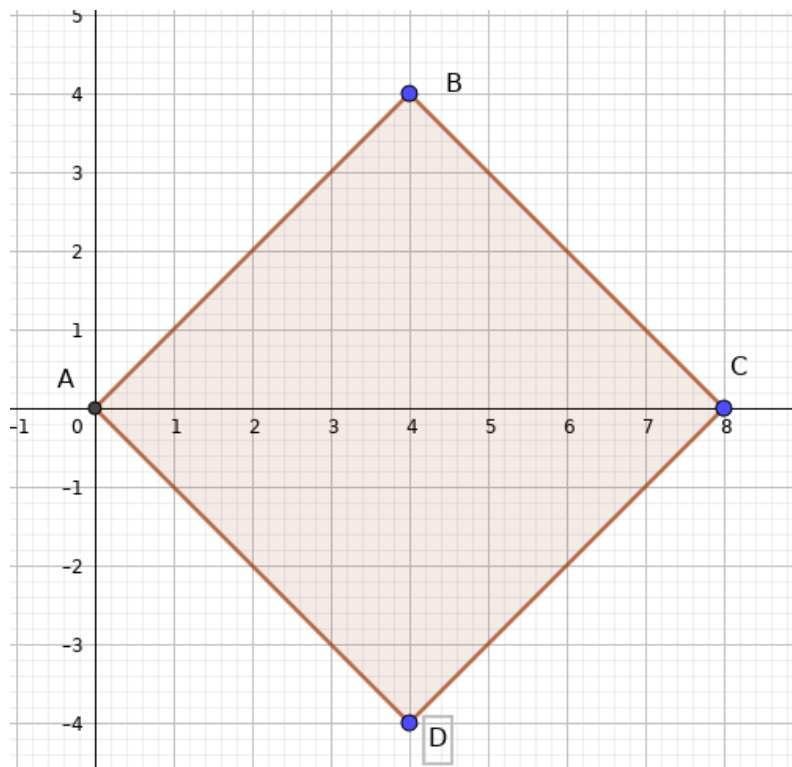
$X, X+2$

$x(x+2) = 48$

$x^2 + 2x = 48$

$x^2 + 2x + 1 = 49$, $(x+1) = 7$ $x = 6$ Sides 6,8

17



Rhombus ,BD =8

18

a $PA \cdot PC = PB \cdot PD$

$$12 \cdot 2 = x \cdot (11 - x)$$

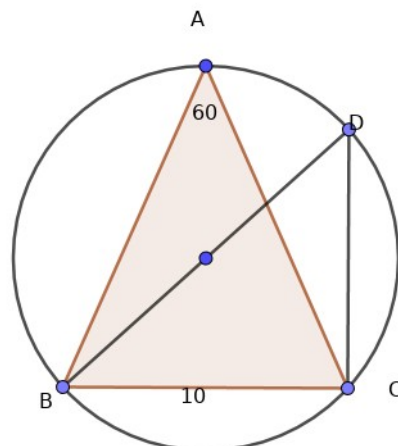
b $11x - x^2 = 24$

$$x^2 - 11x + 24 = 0$$

$$(x - 8)(x - 3) = 0$$

$$PB = 8 \text{ PD} = 3 \text{ or } PB = 3 \text{ , PD} = 8$$

19



$$\sin 60 = \frac{10}{BD}$$

$$BD = 10 / \sqrt{3} / 2 = 20 / \sqrt{3}$$

$$R = 10 / \sqrt{3}$$

20

$$C(15,13)$$

$$AC = 8\sqrt{2}$$

$$(11,9)$$

21

$$l = 25$$

$$h = 15$$

$$V = 8000 \text{ cc}$$

22

Total Employees = 99

Median Class 800-900 class width = 100 No of emp = 25

upto	No. of Emp
600	8
700	21
800	41
900	66
1000	85
1100	99

42nd 800-804

43rd 804-808

44th 808-812

45th 812-816

46th 816-820

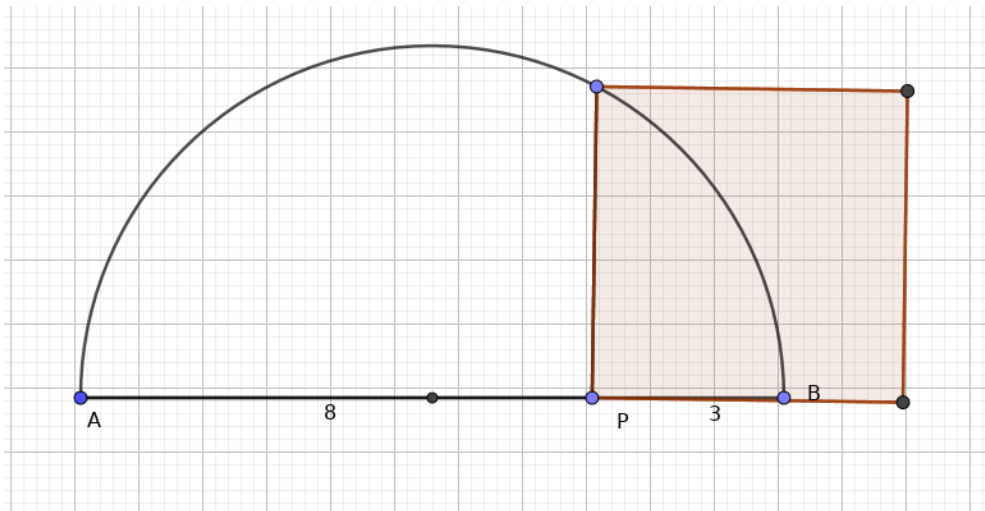
47th 820-824

48th 824-828

49th 828-832

50th 832- 836

Median =834



24

a (4,3)

b (8,0) (4,3) 5 units

c $(x-4)^2 + (y-3)^2 = 5^2$

25

a $\angle ADB = 180 - 105 = 75$

b $\angle AOB = 150$

c $\angle APB = 108 - 150 = 30$

d $\angle ABP = 75$

e $\angle ABO = 90 - 75 = 15$

26

a Vol Cylinder = $\pi r^2 h = 54000\pi$ cc

b $18000\pi \text{ c c } [1/3 * 54000]$

c Radius 30

d $\text{Vol} = 36000\pi \text{ c c}$

e $18000\pi : 36000\pi = 1:2$

27

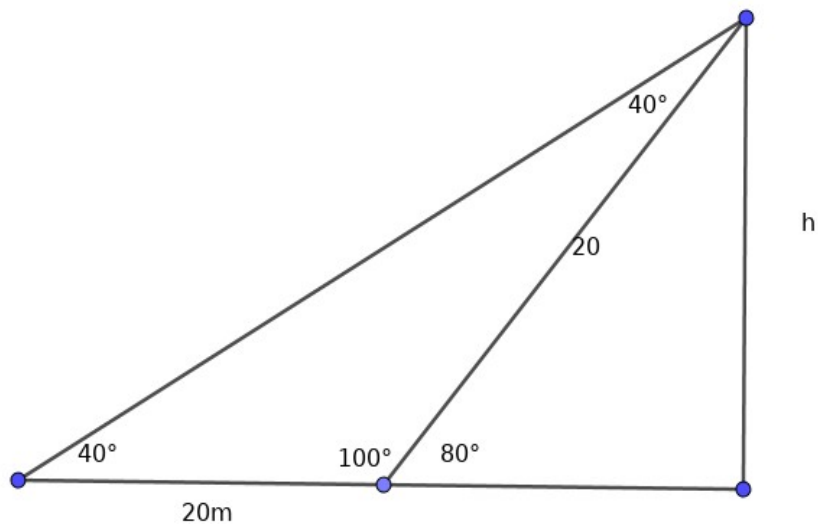
a $1-2+\dots+20 = 20*21/2=210$

b $4n+1$

c $860 \quad 20/2 [2*5+19*4] \quad 10*[10+76] \quad 10*86$

28

a



b $\text{Sin } 80 = h/20$

$H=0.98*20 = 19.6$

29 Heptagon 7 4 $7*4/2= 14$

Decagon 10 7 $10*7/2 = 35$

N sided N n-3 $n(n-3)/2$