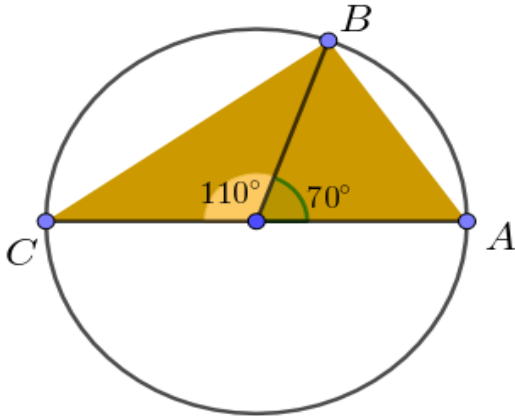
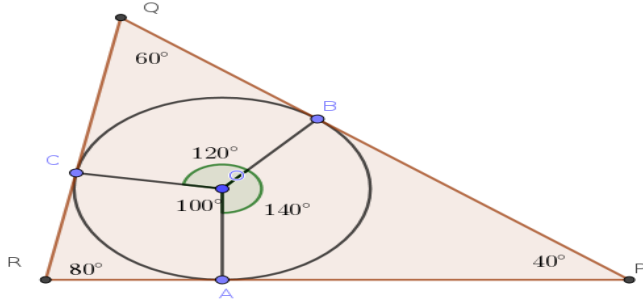
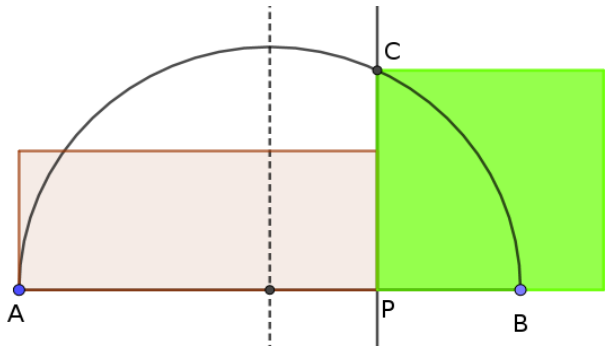
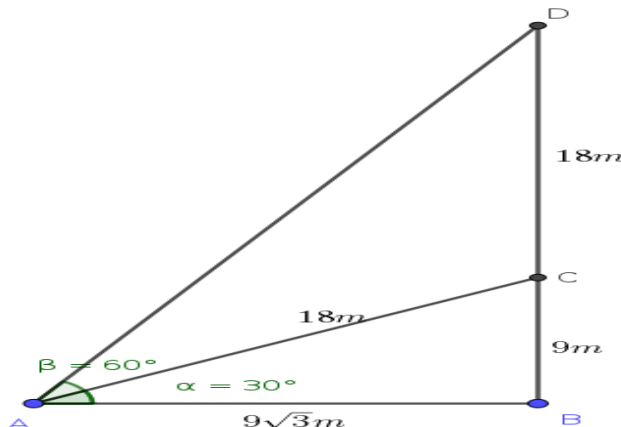


Question Number	Sub Question	Description	Step marks	Score
1		17	1	1
2		40^0	1	1
3		$\frac{12}{36} = \frac{1}{3}$	1	1
4		3 units	1	1
5		1:4	1	1
6		-7	1	1
7		6 units	1	1
8		3	1	1
9		40^0	1	1
10		12 cm	1	1
11	a	First term =10	1	2
	b	Common difference = 7	1	
12	a	$PC = 7 - 3 = 4 \text{ cm}$	1	2
	b	$PA \times PB = PC \times PD$ $PA = \frac{4 \times 3}{2} = 6 \text{ cm}$	1	
13	a	Area of the semicircle is 18π Area of the circle is 36π Area of the triangle $\frac{1}{2} \times 12 \times 6 = 36 \text{ cm}^2$	1	2
	b	Probability = $\frac{36}{18\pi} = \frac{2}{\pi}$	1	
14	a	$\angle A = 90^0$	1	2
	b	BC= 10 cm hence radius = 5 cm	1	
15		Ascending order 20,25,29,31,33,37,40,41,43,45 $Median = \frac{33 + 37}{2} = 35$	1	2
			1	
16	a	Given $S_n = 3n^2 + 2n$ First term = 5	1	2
	b	Common difference = 6	1	
17		Area = 45 cm^2 Perimeter = 30 cm $radius = \frac{Area}{semiperimeter}$	1	

		$r = \frac{45}{15} = 3 \text{ cm}$	1	2
18	a	$\text{Radius} = \sqrt{6^2 + 8^2} = 10 \text{ units}$		2
	b	$x^2 + y^2 = 10^2$ or $x^2 + y^2 = 100$		
19		 <p>Longest side = AC = 8 cm</p>	3	4
20	a	Length of the other side = 11 - x	1	
	b	$(11+x)(11-x) = 117$ $121 - x^2 = 117$ $x^2 = 4$ $x = 2$ Sides are 9 cm & 13 cm	2	4
21				4
22	a	$V = \frac{4}{3} \pi (6)^3 = 288 \pi \text{ cm}^3$	2	
	b	$24 \times \frac{1}{3} \pi r^2 \times 9 = 288 \pi$ $r^2 = 4$ $r = 2$	2	4
23	a	APQR is a parallelogram	1	4

	b	A(1,2), B(11, 6), C(5, 12)	3	
24	a	Probability of both being boys = $\frac{20 \times 15}{35 \times 30} = \frac{2}{7}$	1	4
	b	Probability of one boy and one girl = $\frac{20 \times 15 + 15 \times 15}{35 \times 30} = \frac{525}{1050} = \frac{1}{2}$	2	
	c	Probability of at least one being a girl = $1 - \frac{2}{7} = \frac{5}{7}$	1	
25	a	$r = \frac{5}{2 \sin 30} = 5 \text{ cm}$	2	4
	b	$BC = 10 \times \sin 80^\circ = 9.8 \text{ cm}$, $AC = 10 \times \sin 70^\circ = 9.4 \text{ cm}$	1 1	
26	a	Possible pairs are 1 x 10 , 2 x 5	2	
	b		4	
27	a		2	6
	b	Height of the building = 27 m	2	
	c	Distance between building and boy = $9\sqrt{3} \text{ m}$	2	
28	a	OA = 9 units ; OP = 6 units		

	b	$OA \times OB = OP^2$ $OB = \frac{36}{9} = 4$	2	6
	c	B(4,0)	2	
29	a	Slant height of the cone = Radius of the sector = 10cm	1	
	b	$radius = \frac{216}{360} \times 10 = 6 \text{ cm}$ $h = \sqrt{l^2 - r^2} = \sqrt{10^2 - 6^2} = 8 \text{ cm}$ $V = \frac{1}{3} \pi r^2 h$ $V = \frac{1}{3} \pi \times 6 \times 6 \times 8$ $V = 96 \pi \text{ cm}^3$	1 1 1 2	6
30	a	$1+2+3+\dots+n = \frac{n(n+1)}{2}$	2	
	b	$\frac{n(n+1)}{2} = 325$ $n(n+1) = 650$ On solving we get n = 25	2 2	6
31	a	$P(x) = x^2 - 7x + 11$ $P(2) = 2^2 - 7(2) + 11 = 4 - 14 + 11 = 1$ $P(3) = 3^2 - 7(3) + 11 = -1$	2 2	6
	b	$P(x) - P(2) = x^2 - 7x + 11 - 1 = x^2 - 7x + 10$	2	
	c	$P(x) - P(2) = x^2 - 7x + 10 = (x-2)(x-5)$ Hence x = 2 or x = 5		
32	A	Total number of families = 35 Median = 18 th family	1	
	b	$x_{10} = 250 + \frac{10}{2} = 255$	2 3	6
	c	$x_{18} = x_{10} + 8d = 255 + 80 = 335 \text{ units}$		
33	a	Next two lines are	2	

		<p>22, 24, 26, 28, 30 32, 34, 36, 38, 40, 42</p> <p>b 2, 4, 6... $x_n = 2n$</p> <p>c $x_{46} = 92, x_{55} = 110$ Sum = $\frac{10}{2}(92+110) = 1010$</p>	2	8
34	<p>a $\angle OAP = 90^\circ$</p> <p>b $r = \sqrt{25^2 - 24^2} = \sqrt{625 - 576} = \sqrt{49} = 7 \text{ cm}$</p> <p>c</p>		1	8
35	<p>a Centre(0,0)</p> <p>b (i) D(1,4) (ii) Slope of CD = 4 (iii) Point : (2, 8) [Any point on this line (x+1,y+4)]</p> <p>c Diameter of the circle = $\sqrt{(2)^2 + (-8)^2} = \sqrt{68}$</p>	<p>2</p> <p>4</p> <p>2</p>	8	