

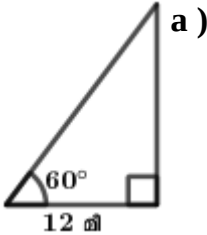
WANDOOR GANITHAM - S S L C MODEL QUESTION PAPER 2021

PEREE2

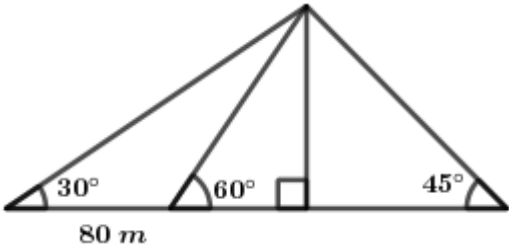
QUESTION PAPER 2 – ANSWER KEY

Qn no.	Key	Score	
For questions from 1 to 5 one score each .			
1	26	1	1
2	$\frac{b}{a}$	1	1
3	5	1	1
4	(7,5)	1	1
5	$\frac{20}{50}$	1	1
For questions from 6 to 10 carries 2 scores each .			
6	a) $\frac{7-10}{10-7} = -1$ b) $7+7 \times -1=0$ or $10+10 \times -1=0$	1 1	2
7	a) $(x-3)$ or $(x+5)$ b) $(x-3)(x+5)$	1 1	2
8	a) 30^0 b) $\frac{10}{\sin 30^0} = 20 \text{ cm}$	1 1	2
9	a) $\pi \times 9^2 \times 20 = 1620 \pi \text{ cm}^3$ b) 3	1 1	2
10	a) $\frac{5-2}{9-4} = \frac{3}{5}$ b) $\frac{n+6-n}{m+10-m} = \frac{3}{5}$	1 1	2

For questions from 11 to 20 carries 3 scores each .

11	Construction	3	3
12	a) $9-5=4$ b) $4n+1$ c) 30	1 1 1	3
13	a) $5^2-25=0$ b) $(x+5)(x-5)$ c) $(11x+5)(11x-5)$	1 1 1	3
14	a) 90 b) $\frac{9}{90}$ c) $\frac{9}{90}$	1 1 1	3
15	a) $\frac{55+62+70+61+63+56+53}{7}=60$ b) $53, 55, 56, 61, 62, 63, 70$ Median = 61	1 1 1	3
16	 b) $12\sqrt{3} m$ c) $12\sqrt{3} \times \sqrt{3} = 36 m$	1 1 1	3
17	a) $16h$ b) $r_1^2 : r_2^2 = 16:9$ $r_1 : r_2 = 4:3$	1 1 1	3

18	<p>a) $AB=2$</p> <p>b) $BC=\sqrt{(1-2)^2+(\sqrt{3}-0)^2}=2$</p> <p>c) $AC=\sqrt{(1-0)^2+(\sqrt{3}-0)^2}=2$</p>	1 1 1	3
19	Construction	3	3
20	<p>a) 20°</p> <p>b) $\angle BCO=30^\circ$</p> <p>$\angle AOB=2\times 50^\circ=100^\circ$</p>	1 1 1	3
For questions from 21 to 30 carries 4 scores each .			
21	Construction	4	4
22	<p>a) $4\times 180=720^\circ$</p> <p>b) $\frac{720}{3}=240^\circ$</p> <p>c) Larger angle = $240-80=160^\circ$</p> <p>$\frac{160-80}{6-1}=16^\circ$</p>	1 1 1 1	4
23	<p>a) $\frac{25}{40}$</p> <p>b) $\frac{15}{40}$</p> <p>c) 10</p> <p>d) $1-\frac{1}{q}$</p>	1 1 1 1	4
24	<p>a) (3,2)</p> <p>b) (3,3) , (3,4) or any two points having x coordinate 3</p> <p>c) (1,2) or any point having y coordinate 2</p>	1 2	4

25	<p>a) $2^2 - 7x \times 2 + 12 = 2$</p> <p>b) $(x-2)$</p> <p>c) $(x^2 - 7x + 12) - 2 = x^2 - 7x + 10$ $(x-2)(x-5)$</p>	1 1 1 1	4																		
26	<p>a)</p> <p>b) $PC \times PD$ or $4 \times 3 = 12$</p> <p>c) $(r+2)(r-2) = 12$ $r = \sqrt{16} = 4$ cm</p>	1 1 1 1	4																		
27	<p>a)</p> <div style="text-align: center;">  </div> <p>b) Smaller triangle having 30° is isosceles height of the tower = $40\sqrt{3}$ m</p> <p>c) $40\sqrt{3}$ m</p>	1 1 1 1	4																		
28	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Daily wage</th> <th style="text-align: center;">Number of workers</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Up to 750</td> <td style="text-align: center;">6</td> </tr> <tr> <td style="text-align: center;">Up to 1000</td> <td style="text-align: center;">14</td> </tr> <tr> <td style="text-align: center;">Up to 1250</td> <td style="text-align: center;">24</td> </tr> <tr> <td style="text-align: center;">Up to 1500</td> <td style="text-align: center;">35</td> </tr> <tr> <td style="text-align: center;">Up to 1750</td> <td style="text-align: center;">44</td> </tr> <tr> <td style="text-align: center;">Up to 2000</td> <td style="text-align: center;">49</td> </tr> <tr> <td style="text-align: center;">Up to 2250</td> <td style="text-align: center;">53</td> </tr> <tr> <td style="text-align: center;">Up to 2500</td> <td style="text-align: center;">56</td> </tr> </tbody> </table>	Daily wage	Number of workers	Up to 750	6	Up to 1000	14	Up to 1250	24	Up to 1500	35	Up to 1750	44	Up to 2000	49	Up to 2250	53	Up to 2500	56	1	
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	<p>a) Rs 1500</p> <p>b) Half the sum of the daily wages of 28th and 29th workers .</p> <p>c) $\frac{1500+1500}{2} = Rs\ 1500$</p>	1 1 1	4
29	<p>a) 18 cm</p> <p>b) 12π cm</p> <p>c) $\frac{12\pi}{2\pi} = 6\text{ cm}$</p> <p>d) $\frac{6 \times 360}{18} = 120^\circ$</p>	1 1 1 1	4
30	<p>a) 100</p> <p>b) $x^2 - 20x + 100 = 576 + 100$</p> <p>c) $(x - 10)^2 = \sqrt{576}$</p> <p>d) $x = 26 + 10 = 36$</p>	1 1 1 1	4
For questions from 31 to 45 carries 5 scores each .			
31	Construction	5	5
32	<p>a) $\frac{60 \times 61}{2} = 1830$</p> <p>b) $\frac{30 \times 31}{2} = 465$</p> <p>c) $1830 - 465 = 1365$</p> <p>d) $2 \times 1365 = 2730$</p> <p>e) $1365 + 2730 = 4095$</p>	1 1 1 1 1	5
33	<p>a) Construction</p> <p>b) Right triangle</p>	4 1	5

34	<p>a) 60°</p> <p>b) 50°</p> <p>c) 50°</p> <p>d) $\angle BAD = 70^{\circ}$ $\angle BCD = 110^{\circ}$</p>	1 1 1 1 1	5
35	<p>a) $PQ = \sqrt{(9-1)^2 + (7-1)^2} = 10$</p> <p>b) $QR = \sqrt{(2-9)^2 + (8-7)^2} = \sqrt{50}$ $PR = \sqrt{(2-1)^2 + (8-1)^2} = \sqrt{50}$</p> <p>c) $(\frac{1+9}{2}, \frac{1+7}{2}) = (5,4)$</p> <p>d) $\sqrt{(2-5)^2 + (8-4)^2} = 5$</p> <p>e) $\frac{1}{2} \times 10 \times 5 = 25 \text{ cm}^2$</p>	1 1 1 1 1	5
36	<p>a) $\frac{171}{9} = 19$</p> <p>b) $210 - 171 = 39$</p> <p>c) $\frac{39-19}{10-5} = 4$</p> <p>d) $4n - 1$</p> <p>e) 3</p>	1 1 1 1 1	5
37	<p>a) 9</p> <p>b) (15,0)</p> <p>c) (15,6)</p> <p>d) $BA = \frac{6^2}{9} = 4$ (13,0)</p>	1 1 1 1 1	5

38	<p>a) $\frac{1}{3} \times \pi \times 6^2 \times 8 = 96 \pi \text{ cm}^3$</p> <p>b) $\frac{8 \times 1}{3} \times \pi \times 6^2 \times 8 = 768 \pi \text{ cm}^3$</p> <p>c) $\frac{768 \pi \times 3}{144 \pi} = 16$</p> <p>d) $\sqrt{12^2 + 16^2} = 20 \text{ cm}$</p> <p>$\pi \times 12^2 + \pi \times 12 \times 20 = 384 \pi \text{ cm}^2$</p>	1 1 1 1 1	5
39	<p>a) 8 cm</p> <p>b) $PA \times PB$ or $18 \times 8 = 144$ or PE^2</p> <p>c) $PC = \frac{18 \times 8}{6} = 24 \text{ cm}$</p> <p>$CD = 24 - 6 = 18 \text{ cm}$</p> <p>d) $\sqrt{18 \times 8} = 12 \text{ cm}$</p>	1 1 1 1 1	5
40	<p>a) 20</p> <p>b) 96</p> <p>c) $a = 12$</p> <p>$b = 8$</p> <p>$(x - 12)(x - 8)$</p>	1 1 1 1 1	5
41	<p>a) 60^0</p> <p>b) 12 cm</p> <p>c) $AR = \frac{6}{\sqrt{3}} \text{ cm}$</p> <p>d) $\frac{1}{2} \times 6 \times 6 \sqrt{3} = 18 \sqrt{3} \text{ cm}$</p> <p>e) $(6 + 6 \sqrt{3}) + (6 + \frac{6}{\sqrt{3}}) + (\frac{12}{\sqrt{3}} + 12) = 24 + 18 \sqrt{3} \text{ cm}$</p>	1 1 1 1 1	5

42	<p>a) AQ</p> <p>b) $12-x$</p> <p>c) $(12-x)+(14-x)=10$ $x = \frac{26-10}{2} = 8$</p> <p>d) $14-8=6 \text{ cm}$</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	5
43	<p>a) 50°</p> <p>b) $\angle ADB=50^\circ$ $\angle PDQ=180-50=130^\circ$</p> <p>c) $\angle PCQ=180-50=130^\circ$ $360-(130+130)=100^\circ$</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>	5
44	<p>a) $\frac{28}{2}=14$</p> <p>b) $(14+x)^2+(14-x)^2=20^2$ or $396-2x^2=400$</p> <p>c) $x^2=4$ $x=2$</p> <p>Length of the sides = 16 cm , 12cm</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	5
45	<p>a) 30°</p> <p>b) 18 cm</p> <p>c) $9\sqrt{2} \text{ cm}$</p> <p>d) $60+45=105^\circ$</p> <p>e) $18 : 9\sqrt{2} : 9+9\sqrt{3}$ or $2 : \sqrt{2} : 1+\sqrt{3}$</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	5