



Subject:	MATHEMATICS	Chapter:	Trigonometry			
Class:	X	Batch:	LOT	LOT 2020 (M-5)	Date:	06/05/2020
No. of Questions:		Type:	Descriptive	Mark:	20	Time: 45 mts

ANSWER KEY

1. a) $\angle A = 46^\circ$

b) $\tan 44 = \frac{AB}{BC}$

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$$\tan 44 \times \tan 46 = \frac{AB}{BC} \times \frac{BC}{AB} = 1$$

2. a) $\angle C = 180 - (70 + 55) = 55^\circ$

b) $AC = 6 \text{ cm}$ സമപാർശ്വത്രികോണം

a) $\text{Area} = \frac{1}{2} \times 6 \times 6 \sin 70$

$$= 3 \times 6 \times 0.93 = 16.74 \text{ cm}^2$$

3. a) $x + y = 90^\circ$

b) $\sin x = \frac{AB}{AC}$

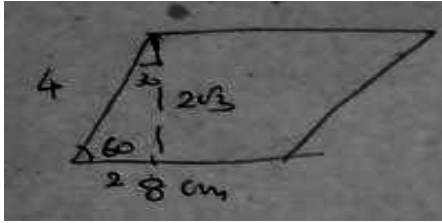
$$\cos y = \frac{AB}{AC}$$

$$\therefore \sin x = \cos y$$

c) $\sin 45 = \cos 45$

$$x = 45^\circ$$

4.

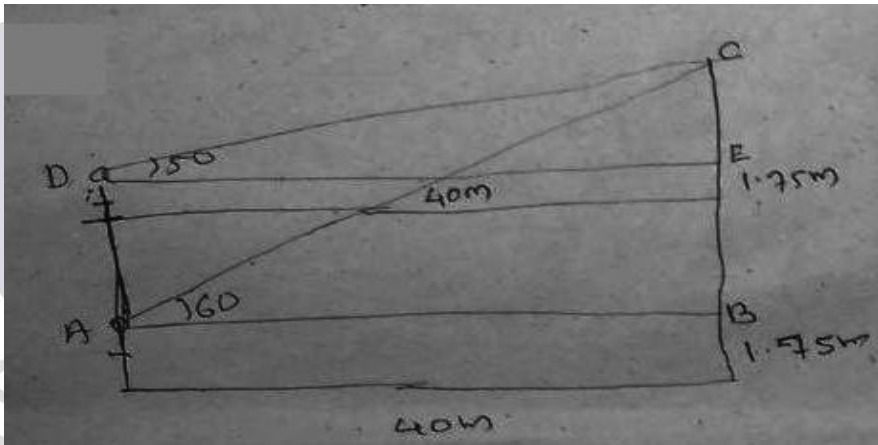


a) $\angle A = 60^\circ$

b) $2\sqrt{3}$

$$\begin{aligned} \text{Area} &= bh = 8 \times 2\sqrt{3} \\ &= 16\sqrt{3} \text{ cm}^2 \end{aligned}$$

5.



a) $\triangle ABC$

$$\tan 60 = \frac{BC}{AB}$$

$$BC = AB \times \tan 60$$

$$= 40 \times 1.732 = \mathbf{69.28 \text{ m}}$$

$$\therefore \text{height of hill} = 69.28 + 1.75 = \mathbf{71.08 \text{ m}}$$

$$\triangle DCE$$

$$\tan 50 = \frac{CE}{40}$$

$$CE = 40 \times \tan 50 = 40 \times 1.19 = 47.67$$

$$\therefore \text{height of the tower} = 71.03 - 47.67 + 1.75 = \mathbf{21.61 \text{ m}}$$

6. $2R = a / \sin(180 - A)$

$$\frac{8}{\sin 40} = \frac{8}{0.64} = \frac{25}{2} = 12.5 \text{ m}$$

$$\mathbf{radius = 6.25}$$

