



S.P.V.V.S.S
G.P.PORWAL ARTS COMMERCE AND V V
SALIMATH SCIENCE COLLEGE SINDAGI –
586128

Dist: Vijayapura

State: Karnataka

DEPARTMENT OF MATHEMATICS

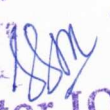
PROJECT WORK

This is to certify that students of B. Sc I SEM participated in Mathematics Project work on Mathematics Day 2022-23. Model on Application of Trigonometry _____ satisfactorily completed their work under my supervision at our college under Rani Chennamma University Belagavi.


HEAD OF THE DEPARTMENT

Dept. of Mathematics

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SINDAGI-586128


Coordinator IQAC

G. P. PORWAL ARTS, COM &
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Participated Students

Muskan Mulla

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Principal,

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APPLICATION OF TRIGNOMETRY



MODEL Name : APPLICATIONS OF TRIGNOMETRY

I Application

Aim :- To determine the height of the Building, height of the tree and height of the Pole By using trigonometry.

Apparatus :- Clinometer, Tree, Building, Pole, laser light - 2, meter scale, Pencil

Formula :- $\tan \theta = \frac{\text{opposite}}{\text{Adjacent}}$

i) Determine the height of the building.

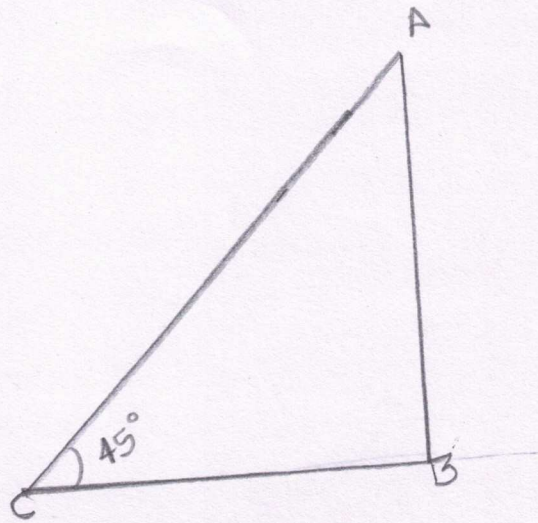
$$\tan \theta = \frac{\text{OPP}}{\text{Adj}}$$

$$\tan 45^\circ = \frac{AB}{BC}$$

$$1 = \frac{AB}{21}$$

$$AB = 21 \times 1$$

$$AB = 21 \text{ cm}$$



ii) Determine the height of the Tree :

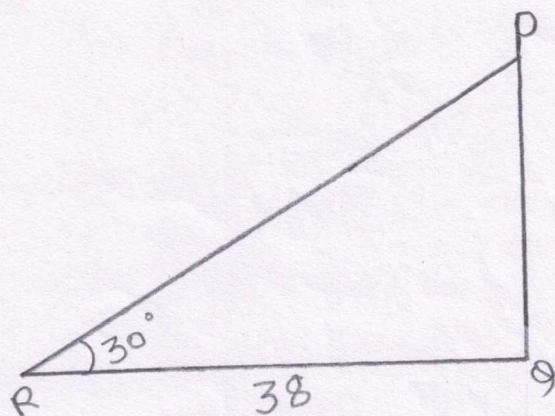
$$\tan \theta = \frac{\text{OPP}}{\text{Adj}}$$

$$\tan 30^\circ = \frac{PQ}{QR}$$

$$\frac{1}{\sqrt{3}} = \frac{PQ}{38}$$

$$PQ = \frac{38}{\sqrt{3}}$$

$$PQ = 22 \text{ cm}$$



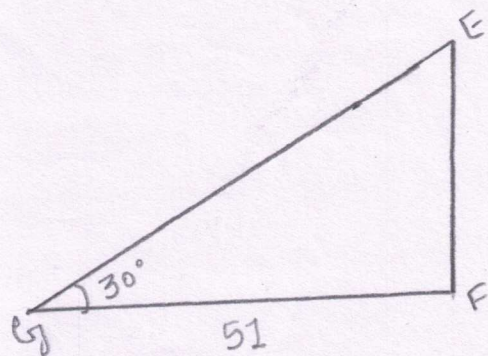
iii) Determine the height of the Pole :

$$\tan \theta = \frac{\text{OPP}}{\text{Adj}}$$

$$\tan 30^\circ = \frac{EF}{GF}$$

$$\frac{1}{\sqrt{3}} = \frac{EF}{51}$$

$$EF = 29.5 \text{ cm}$$

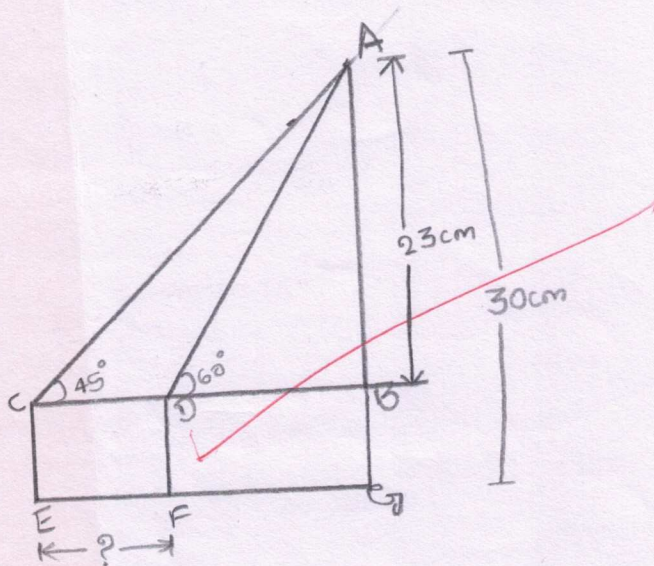


II - Application

Aim : To determine the distance between the two objects or two persons by using trigonometry.

Apparatus : two clinometer, thread, Pole, meter Scale, two objects.

Formula : $\tan \theta = \frac{\text{opposite}}{\text{Adjacent}}$



$$\tan 60^\circ = \frac{AB}{BD}$$

$$\sqrt{3} = \frac{23}{BD}$$

$$BD = \frac{23}{\sqrt{3}}$$

$$BD = 13.29 \text{ cm}$$

$$CD = BC - BD$$
$$= 23 - 13.29$$

$$= 9.71 \text{ cm}$$

$$CD = 9.8 \text{ cm}$$

In ΔABC

$$\tan 45^\circ = \frac{AB}{BC}$$

$$1 = \frac{23}{BC}$$

$$BC = 23 \text{ cm}$$

In ΔABD

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