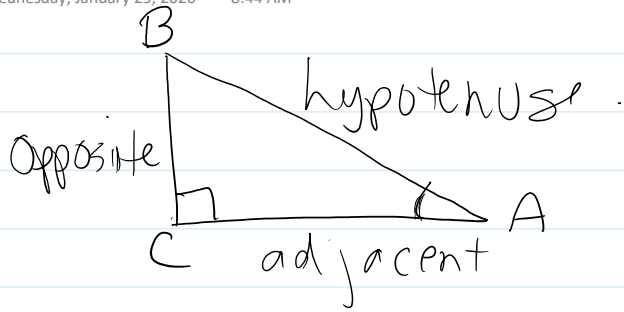


Sine and Cosine Ratios

Wednesday, January 29, 2020 8:44 AM



$$\text{Tangent } A = \frac{\text{opposite}}{\text{adjacent}}$$

$$\text{Sine } A = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\text{Cosine } A = \frac{\text{adjacent}}{\text{hypotenuse}}$$

SOH CAH TOA
 i p u o d y a p d
 n p p s i n e n g g n t

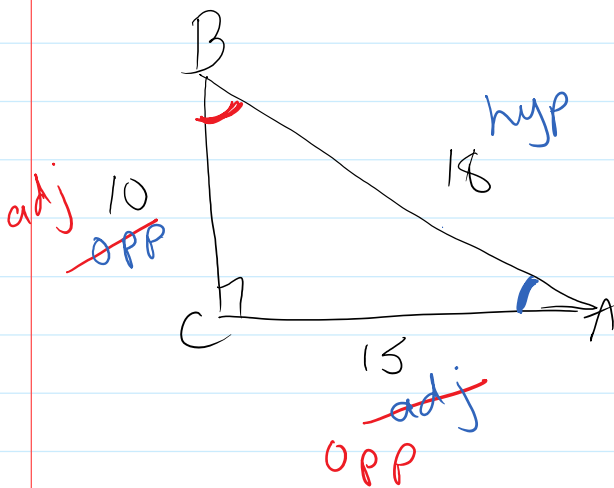
$$\sin 40^\circ = .6428$$

$$\cos 80^\circ = .1736$$

$$\sin A = 0.85$$

$$\angle A = \sin^{-1}(0.85)$$

$$\angle A = 58^\circ$$



$$\cos A = \frac{\text{adj}}{\text{hyp}} = \frac{15}{18} = .8333$$

$$\sin A = \frac{\text{opp}}{\text{hyp}} = \frac{10}{18} = .5556$$

$$\cos B = \frac{A}{H} = \frac{10}{18} = .5556$$

$$\sin B = \frac{O}{H} = \frac{15}{18} = .8333$$

$$m \angle A = \cos^{-1}\left(\frac{15}{18}\right) = 34^\circ$$

$$\sin^{-1}\left(\frac{10}{18}\right) = 34^\circ$$

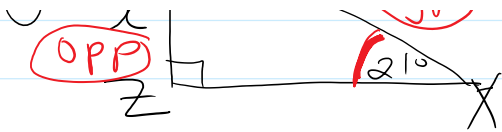
$$m \angle B = \cos^{-1}\left(\frac{10}{18}\right) = 56^\circ$$

$$\sin^{-1}\left(\frac{15}{18}\right) = 56^\circ$$



Find side x.

$$\sin A = \frac{\text{opp}}{\text{hyp}}$$



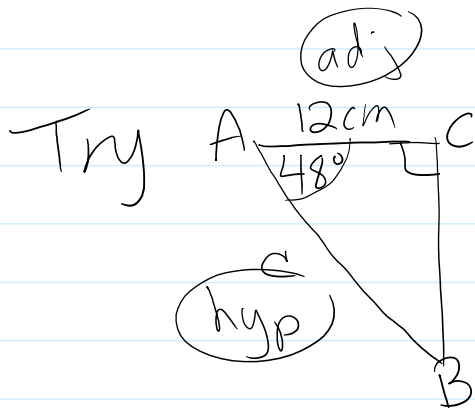
$$\sin A = \frac{\text{opp}}{\text{hyp}}$$

$$\sin 21 = \frac{x}{15}$$

SOH CAH TOA

$$x = 15 \cdot \sin 21$$

$$x = 5.4$$

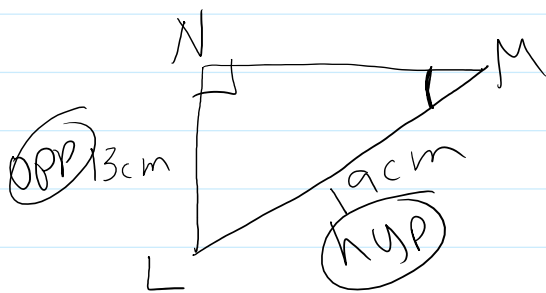


Find side c

$$\cos 48^\circ = \frac{12}{c}$$

$$c = \frac{12}{\cos 48}$$

$$c = 17.9 \text{ cm}$$



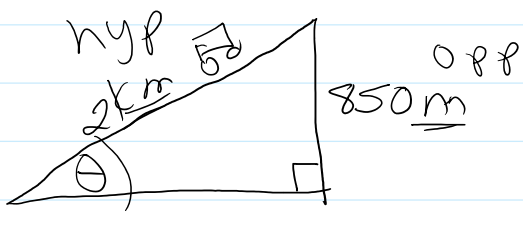
Find $\angle M$

$$\sin M = \frac{13}{19}$$

$$\angle M = \sin^{-1}\left(\frac{13}{19}\right)$$

$$\angle M = 43^\circ$$

A 2 km road increases in height 850 m. What is the angle of inclination?



$$\sin \theta = \frac{850}{2000}$$

$$\angle \theta = \sin^{-1}\left(\frac{850}{2000}\right)$$

$$\angle \theta = 25^\circ$$

Page 120-123 #1-3 (odd letters)
4-13.