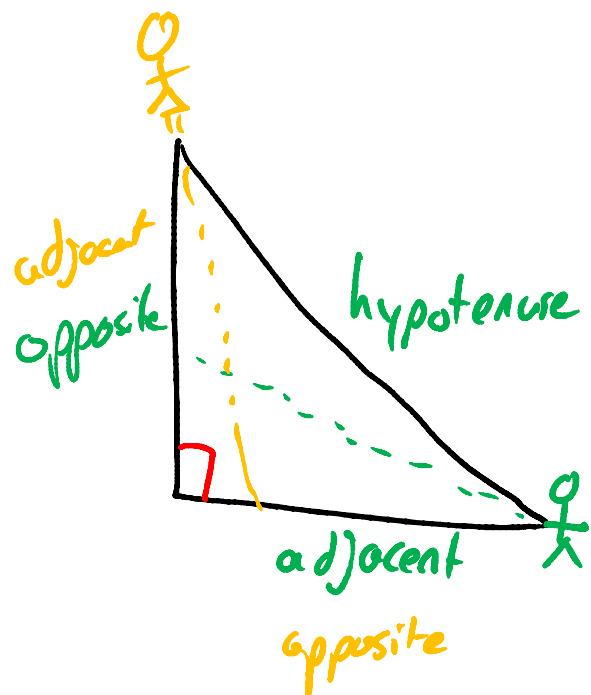


Mathematics 10D

7.4 – Right Angled Trigonometry

Mr. D. Hagen



$$a^2 + b^2 = c^2$$

↳ hypotenuse

$\theta = \text{theta}$
 $\beta = \text{beta}$

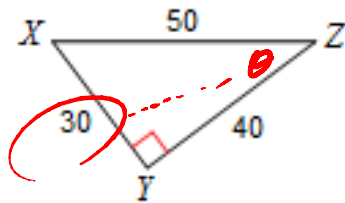
Sine $\rightarrow \sin \theta = \frac{\text{opposite}}{\text{hypotenuse}} = \frac{\text{opp}}{\text{hyp}}$

Cosine $\rightarrow \cos \theta = \frac{\text{adj}}{\text{hyp}}$

Tangent $\rightarrow \tan \theta = \frac{\text{opp}}{\text{adj}}$

sohcah toa

1) $\sin Z$

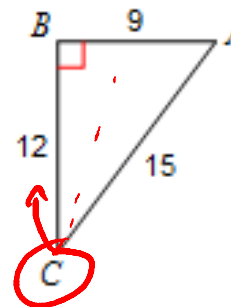


$$= \frac{\text{opp}}{\text{hyp}}$$

$$= \frac{30}{50}$$

$$= \frac{3}{5}$$

2) $\tan C$

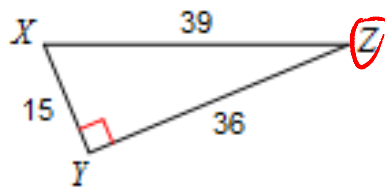


$$= \frac{\text{opp}}{\text{adj}}$$

$$= \frac{9}{12}$$

$$= \frac{3}{4}$$

3) $\cos Z$

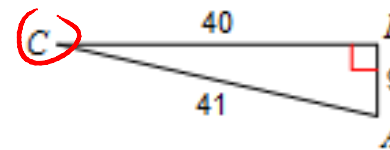


$$= \frac{\text{adj}}{\text{hyp}}$$

$$= \frac{36}{39}$$

$$= \frac{12}{13}$$

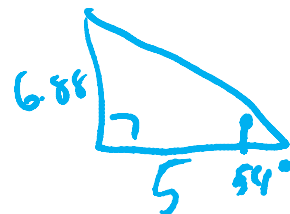
4) $\tan C$



$$= \frac{9}{40}$$

5) $\tan 54^\circ$

$$= 1.3764$$



6) $\sin 26^\circ$

$$= 0.4384$$

7) $\sin C = 0.9848$

$$C = \sin^{-1}(0.9848)$$

$$C = 80^\circ$$

8) $\tan X = 6.3138$

$$X = \tan^{-1}(6.3138)$$

$$X = 81^\circ$$

9) $\cos U = 0.7431$

$$U = \cos^{-1}(0.7431)$$

$$U = 42^\circ$$

10) $\sin V = 0.8480$

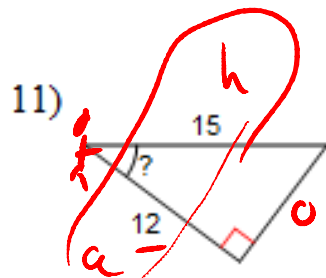
$$V = \sin^{-1}(0.8480)$$

$$V = 58^\circ$$

~~$$\sin^{-1}(\sin(\text{Angle})) = \text{Ratio}$$~~

$$\text{Angle} = \sin^{-1}(\text{ratio})$$

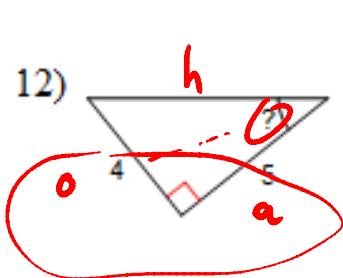
Solucan toa



$$\cos \theta = \frac{12}{15}$$

$$\theta = \cos^{-1}\left(\frac{12}{15}\right)$$

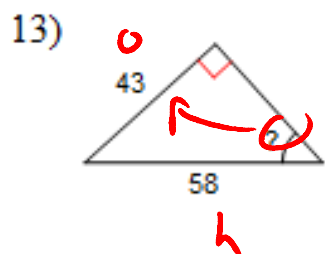
$$\theta = 37^\circ$$



$$\tan \theta = \frac{4}{5}$$

$$\theta = \tan^{-1}\left(\frac{4}{5}\right)$$

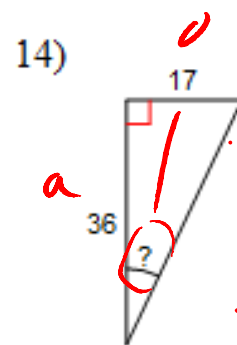
$$\theta = 37^\circ$$



$$\sin \theta = \frac{43}{58}$$

$$\theta = \sin^{-1}\left(\frac{43}{58}\right)$$

$$\theta = 64^\circ$$



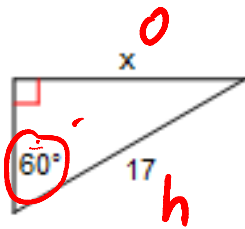
$$\tan \theta = \frac{17}{36}$$

$$\theta = \tan^{-1}\left(\frac{17}{36}\right)$$

$$\theta = 25^\circ$$

sohcahtoa

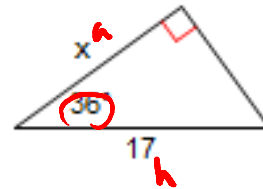
15)



$$(11) \sin 60 = \frac{x}{17}$$

$$14.7 = x$$

16)

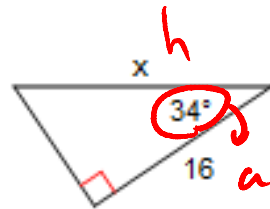


$$\cos 36 = \frac{x}{17}$$

$$17 \cos 36 = x$$

$$13.8 = x$$

17)

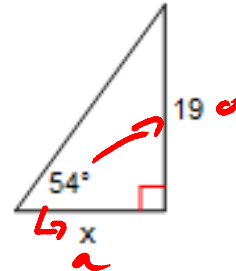


$$(x) \cos 36 = \frac{16}{x \cos 36}$$

$$x = \frac{16}{\cos 36}$$

$$x = 19.8$$

18)



$$\tan 54 = \frac{19}{x}$$

$$x = \frac{19}{\tan 54}$$

$$x = 13.8$$