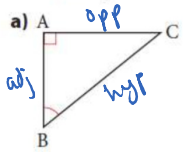
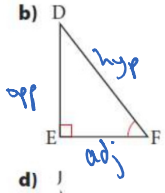
DAY 3 - More Practice SOH CAH TOA

1. Label the hypotenuse, the opposite side, and the adjacent side relative to the marked angle.

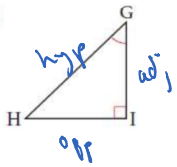
a) A, B, C — opp, adj, hyp



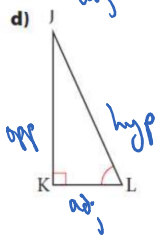
b) D, E, F — hyp, opp, adj



c) G, H, I — hyp, adj, opp



d) J, K, L — opp, hyp, adj



MAKE SURE your calculator is in DEGREE mode!

2. Use a scientific calculator to find the measure of each ∠ to the nearest degree.

a) sin A = 0.8192

$A = \sin^{-1}(0.8192)$

$A = 55°$

b) sin A = 0.9962

$A = \sin^{-1}(0.9962)$

$A = 85°$

c) tan B = 0.9063

$B = \tan^{-1}(0.9063)$

$B = 42°$

d) cos B = -0.8480

$B = \cos^{-1}(-0.8480)$

$B = 148°$

e) cos B = 0.1233

$B = \cos^{-1}(0.1233)$

$B = 83°$

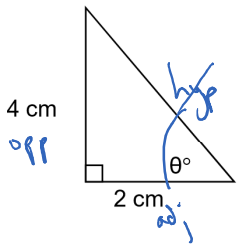
f) tan B = 0.6680

$B = \tan^{-1}(0.6680)$

$B = 34°$

3. Solve for angle Θ

a.



SOH CAH TOA

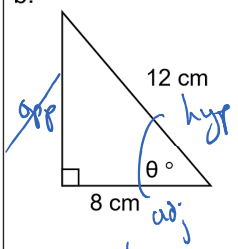
$\tan\theta = \frac{4}{2}$

$\theta = \tan^{-1}\left(\frac{4}{2}\right)$

$\theta = \tan^{-1}(2)$

$\theta = 63°$

b.



SOH CAH TOA

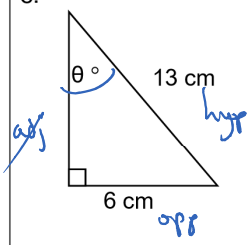
$\cos\theta = \frac{8}{12}$

$\theta = \cos^{-1}\left(\frac{8}{12}\right)$

$\theta = \cos^{-1}(0.6667)$

$\theta = 48°$

c.



SOH CAH TOA

$\sin\theta = \frac{6}{13}$

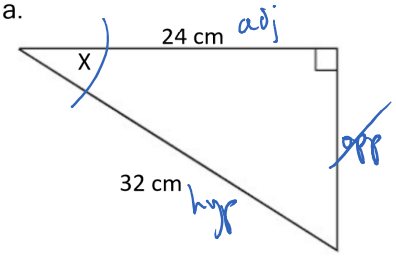
$\theta = \sin^{-1}\left(\frac{6}{13}\right)$

$\theta = \sin^{-1}(0.4615)$

$\theta = 27°$

4. Solve the following for x.

a.

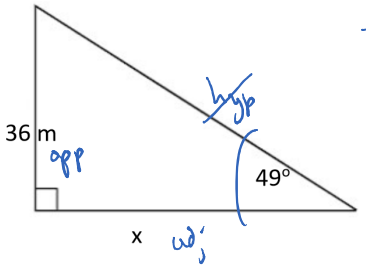


$\cos X = \frac{24}{32}$

$X = \cos^{-1}\left(\frac{24}{32}\right)$

$X = 41°$

b.



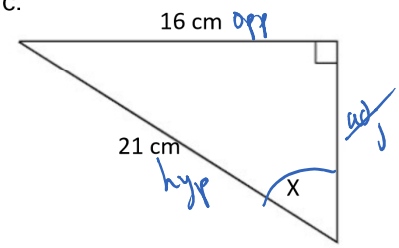
$\tan 49° = \frac{36}{x}$

$(\tan 49°)(x) = 36$

$x = \frac{36}{\tan 49°}$

$x = 31.3\text{m}$

c.

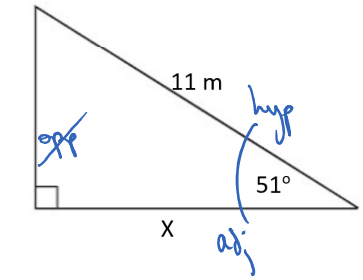


$\sin X = \frac{16}{21}$

$X = \sin^{-1}\left(\frac{16}{21}\right)$

$X = 50°$

d.

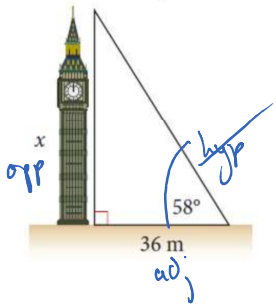


$\cos 51° = \frac{x}{11}$

$(\cos 51°)(11) = x$

$6.9\text{m} = x$

5. Find the height of the tower to the nearest tenth of a metre.



$\tan 58° = \frac{x}{36}$

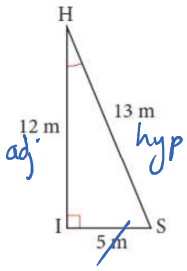
$(\tan 58°)(36) = x$

$57.6 = x$

∴ height of tower is 57.6m

6. Write the ratio comparing the length of the adjacent side to the length of the hypotenuse for the marked angle. Then, express the ratio as a decimal, rounded to three decimal places. Compare answers with a classmate.

Then find angle H



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

$\cos H = 0.9231$

$H = \cos^{-1}(0.9231)$

$H = 23°$

∴ angle H is 23°