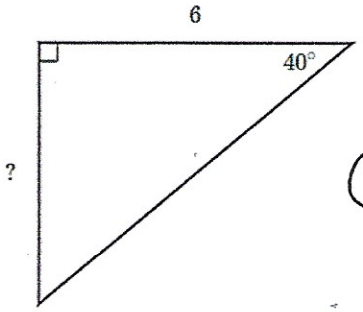
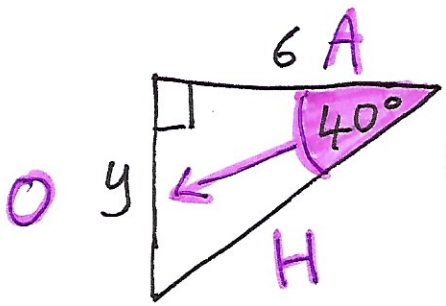
Additional Practice : Solving for a Side using trig ratios

ch8.4

#1)



first label triangle with
"O" for opposite
"A" for adjacent
"H" for hypotenuse



second decide which trig ratio you need. It will be tan because we need to find "O" and we know "A"

third Solve for y

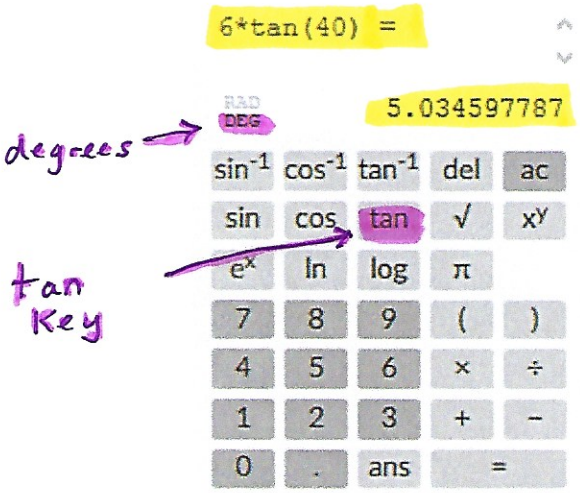
$$\tan x = \frac{O}{A}$$

$$\tan 40^\circ = \frac{y}{6}$$

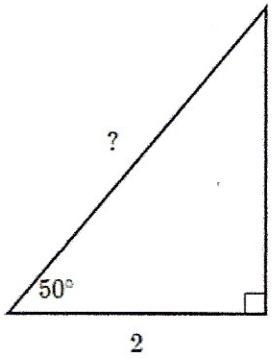
$$6 * \tan 40^\circ = y$$

$$5.03 = y$$

rounded to 2 decimal places



#2/



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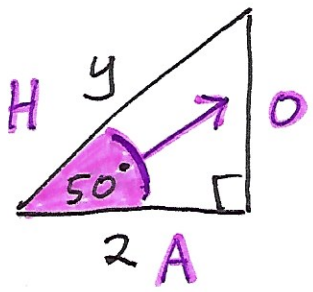


second decide which trig ratio you need. It will be cos because we need to find "H" and we know "A"

third Solve for y

$$\cos x = \frac{A}{H}$$

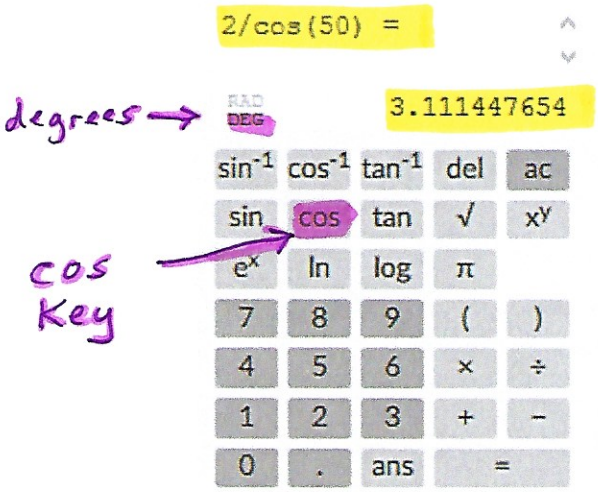
$$\cos 50^\circ = \frac{2}{y}$$

$$y * \cos 50^\circ = 2$$

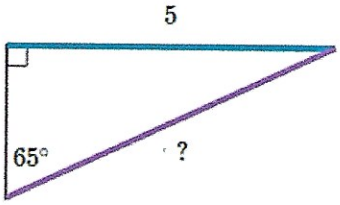
$$y = \frac{2}{\cos 50^\circ}$$

$$y = \boxed{3.11}$$

rounded to 2 decimal places



#3/



First label triangle with
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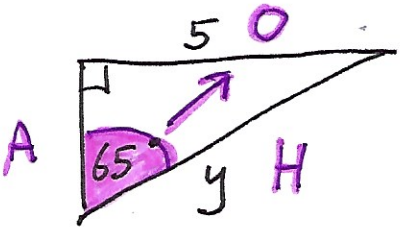

second decide which trig ratio you need. It will be sin because we need to Find "H" and we know "O"

third Solve For y

$$\sin x = \frac{O}{H}$$

$$\sin 65^\circ = \frac{5}{y}$$

$$y * \sin 65^\circ = 5$$

$$y = \frac{5}{\sin 65^\circ}$$

$$y = \boxed{5.52}$$

rounded to 2 decimal places