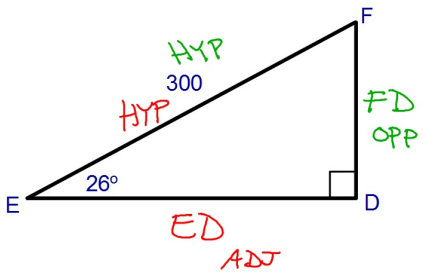
Solve this triangle. Round to the nearest hundredth.

SOHCAHTOA

$\angle F = 90° - 26° = 64°$



FD :

$300 \cdot \sin 26° = \frac{FD}{300} \cdot 300$

$FD = 131.51$

ED :

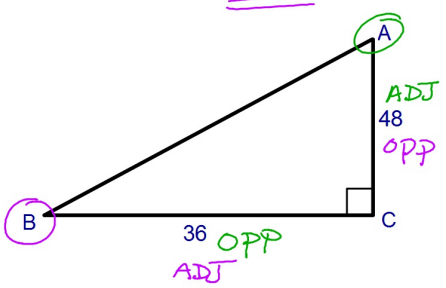
$300 \cdot \cos 26° = \frac{ED}{300} \cdot 300$

$ED = 269.64$

Solve this triangle. Round to the nearest hundredth.

This means to find all missing angles and sides.

SOHCAHTOA



AB : use PYTHAGOREAN THEOREM

$(AB)^2 = 48^2 + 36^2$

$AB = \sqrt{48^2 + 36^2} = 60$

$\angle A$:

$\tan A = \frac{36}{48}$

$\angle A = \tan^{-1}\left(\frac{36}{48}\right) =$

$\angle A = 36.87°$

$\angle B$:

$\angle B = 90 - \angle A = 53.13°$

- OR -

$\tan B = \frac{48}{36}$

$\angle B = \tan^{-1}\left(\frac{48}{36}\right) = 53.13°$

Hwk #12 Sec 14-3

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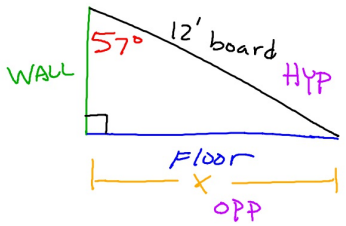
Problems 2(a,f), 3(a,b,e), 5, 6, 36, 37

Carpenters attach a 12 foot long board to the top of a wall and to the floor in order to keep it supported while they finish the construction. If one end of this board makes a 57° angle with the wall how far from the wall is the other end of the board? Round to the nearest tenth of a foot.

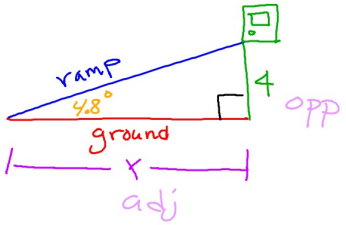


SOHCAHTOA

$12 \cdot \sin 57° = \frac{x}{12} \cdot 12$

$x = 10.1 \text{ ft}$

In order for a building to be wheelchair accessible it needs to have a wheelchair ramp if the door isn't at ground level. According to the ADA the maximum angle a ramp can make with the ground is 4.8°. A ramp is needed to take a person from the level of the parking lot to a doorway that is 4 feet above the parking lot. How far from the building will the end of the ramp be located? Round to the nearest hundredth.



SOHCAHTOA

$\tan 4.8^\circ = \frac{4}{x}$

turn this into a proportion

$\frac{\tan 4.8^\circ}{1} = \frac{4}{x}$

then cross multiply

$x = 47.63$ ft