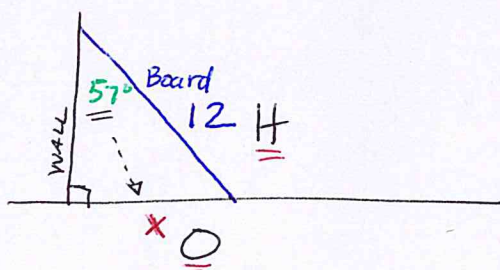


Practice #4 Trig Story Problems Thursday, March 19, 2020

1. Carpenters lean a 12 foot long board against a wall and attach it 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 as measure along the floor? Round to the nearest tenth of a foot.
2. You are flying a kite and have let out 30m of string. If you see the kite with an angle of elevation of 71° , find the height of the kite to the nearest tenth of a meter.
3. You are helping to trim a large tree in your yard. You climb high up into the tree and attach a 50ft long rope to a large limb. Your brother is on the ground holding the other end of the rope and pulling it tight. The rope makes a 62° angle with the ground. How far is your brother from the base of the tree? Round to the nearest hundredth.
4. You are at the top of a 120 foot tall vertical cliff. You see your car with an angle of depression of 41° . How far from the base of the cliff is your car? Round to the nearest tenth of a foot.

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1. Carpenters lean a 12 foot long board against a wall and attach it 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 as measure along the floor? Round to the nearest tenth of a foot.



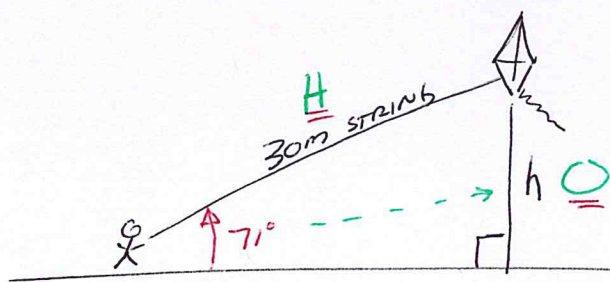
SOHCAHTOA

$$12 \cdot \sin 57^\circ = \frac{x}{12} \cdot 12$$

$$x = 12 \sin 57^\circ$$

$$x = 10.1 \text{ ft}$$

2. You are flying a kite and have let out 30m of string. If you see the kite with an angle of elevation of 71° , find the height of the kite to the nearest tenth of a meter.



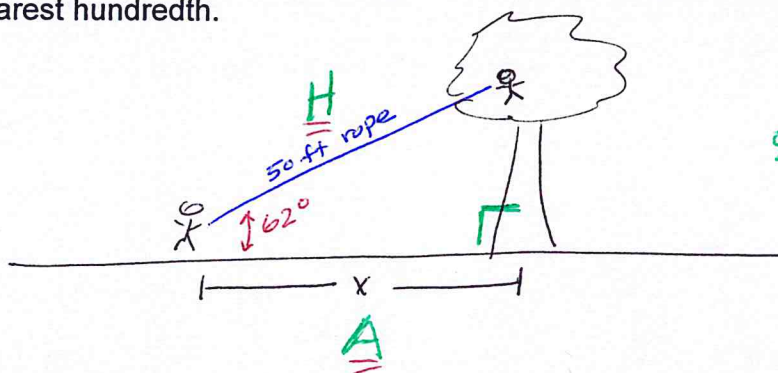
SOHCAHTOA

$$30 \cdot \sin 71^\circ = \frac{h}{30} \cdot 30$$

$$h = 30 \sin 71^\circ$$

$$h = 28.4 \text{ m}$$

3. You are helping to trim a large tree in your yard. You climb high up into the tree and attach a 50ft long rope to a large limb. Your brother is on the ground holding the other end of the rope and pulling it tight. The rope makes a 62° angle with the ground. How far is your brother from the base of the tree? Round to the nearest hundredth.



SOHCAHTOA

$$50 \cdot \cos 62^\circ = \frac{x}{50} \cdot 50$$

$$x = 23.47 \text{ ft}$$

4. You are at the top of a 120 foot tall vertical cliff. You see your car with an angle of depression of 41° . How far from the base of the cliff is your car? Round to the nearest tenth of a foot.

SOHCAHTOA

$$\tan 41^\circ = \frac{120}{x}$$

$$x = \frac{(120)(1)}{\tan 41^\circ}$$

$$x = \frac{120}{\tan 41^\circ} = 138.0 \text{ ft}$$

