## 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.

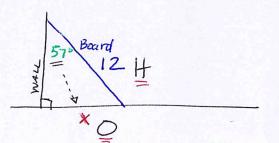
4. You are at the top of a 120 foot tall vertical cliff. You see your car with an angle of depression of 41° How far from the base of the cliff is your car? Round to the nearest tenth of a foot.

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Answers ]

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.

Sol+CAHTOA

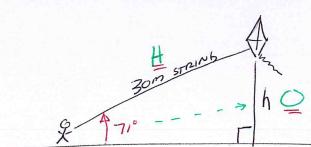


$$12.5in 57° = \frac{X}{12}.12$$

$$X = 12.5in 57°$$

$$X = 10.1 ft$$

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.

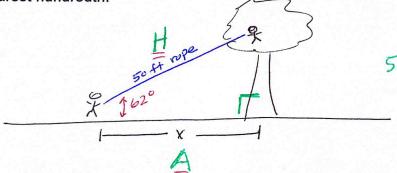


SOHCAHTOA

30. SIN71" = 
$$\frac{h}{30}$$
...30

 $h = 30 \sin 71^{\circ}$ 
 $h = 26.4m$ 

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.



SONCAHTOA

50. 
$$(0562^{\circ} = \frac{x}{50}.50$$
 $X = 23.47 \text{ f}$ 

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.

