

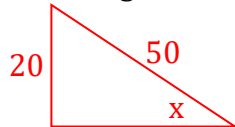
NAME: KEY

SCORE: _____

SohCahToa WORD PROBLEMS

INSTRUCTIONS: Solve each word problem. Round answers to the nearest whole number.

1. Phillip is a dare devil and wants to build a ramp that will be 20 feet off the ground when he launches from it. If he only had enough lumber to build a ramp that is 50 feet long at what angle should he construct the ramp?



$$\begin{aligned}\sin x &= \frac{20}{50} \\ \sin x &= .4 \\ x &= \sin^{-1} 0.4 \\ x &= 23.6^\circ\end{aligned}$$

2. Angie has been commissioned to create a giant letter "L" from metal. The two sides are 3.5 feet and 4.6. What should the length from the bottom right of the "L" to the top of the "L" be if Angie connected them at a right angle?
3. Andy is flying a kite. The string makes a 30° angle with the ground and the string is 100 feet long. How high is the kite flying?
4. Wires are being used to hold a 10 foot pole perfectly vertical. If the wires are 15 feet long, what angle do the wires make with the ground?
5. John wants to measure the height of a building. If the sun is at currently 60° above the horizon and the building is casting a shadow of 30 feet how tall is the building?
6. Farmer Brown is building a triangular fence. He has 40 feet of fencing. He makes one side 10 feet long and the connecting side 15 feet. If these sides connect at 90° will he have enough to complete the fence?

