Date _____   Name _____

Right Triangle Word Problems

For each question below, find the missing side to one decimal place or the missing angle to the nearest degree. Show all your work and be sure to include a diagram. Don't forget units!

An airplane begins its approach into Prince George. If the plane is flying at an elevation of 10 500 meters and begins its descent at an angle of 3°, how much further does the plane have to travel before it touches down? Answer using reasonable units.	Jason leans a 20' ladder against the side of a house. If the base of the ladder is 7.5' from the house, will he be able to reach a window sill that is 18' off the ground? Justify your answer.	An observation tower is 75 m tall. If a 90 m long support wire is attached 10 m from the top of the tower what angle does the wire make with the ground?
Jill is standing on one side of a Fraser River looking up at the top of the cutbanks. She knows the height of the cutbanks is 60 meters and estimates that it is 100 meters across the river to the base. How far is she from Jack who is standing at the top of the hill celebrating his climb?	Jill is standing on one side of a Fraser River looking up at the top of the cutbanks. Different story! She knows the height of the cutbanks is 60 meters and estimates that it is 100 meters across the river to the base. What is the angle of inclination from Jill to the top of the hill?	At a point 30 feet from the base of a tree, the angle of elevation is 53°. How tall is the tree?

To safely use a ladder, the ladder should make an angle of 75° with the ground. How far from the side of a building should the base of a 30' extension ladder be placed to fit this safety suggestion?	Farmer Tom wants to split one of his corrals into two sections. The rectangular corral is 25m by 12m. He wants to build a fence connecting one corner with the opposite corner. How long will the fence need to be?	A personal trainer sets the angle of incline on a treadmill to 6°. If the surface of the treadmill is 5.5 feet, how high is the top of the treadmill of the floor?

201.6 km	yes (h=18.5 ft)	46°
116.6 m	31°	39.8 ft
7.8 ft	27.7 m	0.6 ft