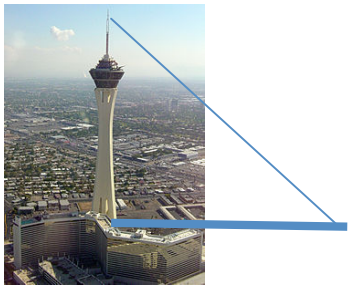
Right triangle Applications:

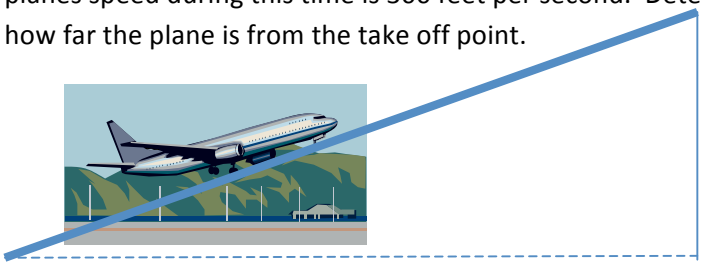
Label each diagram as necessary and find required information.

1. A power pole requires a support wire (guy wire) to prevent it from leaning from the pull of the power lines. The pole is 42 feet in length (from ground to top). If the guy wire makes an angle of 38 degrees with the ground determine the distance the anchor point is from the pole and the length of the guy wire.

2. The angle of elevation of the sun is 46 degrees and casts a show that is 380 meters in length. Determine the height of the tower.

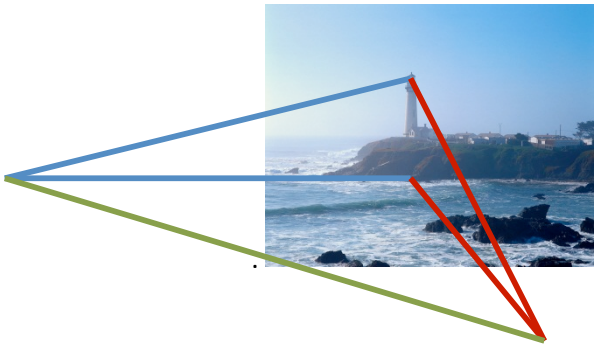


3. A plane is taking off at an angle of 5 degrees and maintains this angle for a total time of 10 seconds. The planes speed during this time is 300 feet per second. Determine the altitude the plane has reached and how far the plane is from the take off point.

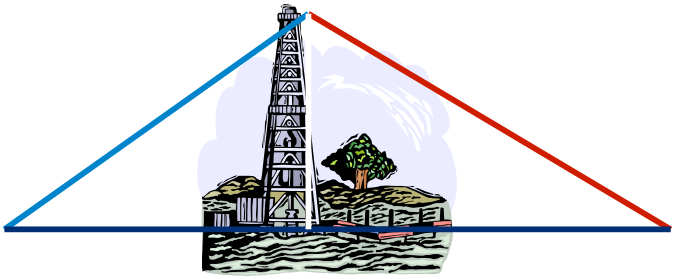


4. A 24 foot ladder is place against a wall. The base of the ladder is 8 feet from the wall. Determine the angles that ladder makes with the ground and the wall and how high up the wall the ladder reaches.

5. The operator of a 140 foot light house(distance measured from surface of water) notices a sailboat due west of his position. He is able to measure the angle of depression to the boat as being 14 degrees. Determine how far from the sailboat is from the lighthouse. Turning due south he notes a motor boat and that angle of depression is 6 degrees. You are now required to determine the distance the motor boat is from the lighthouse and then determine how far the two boats are apart.



6. An oil right stand 120 feet in the air. A support wire is required on the east and west sides. The wire on the west side will be 180 feet from the perpendicular base and the on the east will be 200 feet from the perpendicular base. Determine the distance the anchor points are from the drill rig and the anlge each wire makes with the ground.



7.The luggage conveyor on an airplane is 28 feet in length and the bottom of the conveyor is 16 feet from a perpendicular drawn down from the door to the plane's storage area. Determine how far the bottom of the luggage door is from the ground and the angle the conveyor makes with the ground.