

ICM

Applications of Trig

1. A wooden beam 24 feet long leans against a wall and makes an angle of 71 degrees with the ground. How high up the wall does the beam reach to the nearest foot?
2. A ladder leaning against a building makes an angle of 65 degrees with the ground and reaches a point on the building 20 feet above the ground. What is the length of the ladder to the nearest foot?
3. An airplane climbs at an angle of 13 degrees with the ground. What is the distance it has traveled (to the nearest hundred feet) when it has attained an altitude of 400 feet?
4. A 20 foot pole leaning against a wall reaches a point 18 feet above the ground. What is the angle the pole makes with the ground to the nearest degree?
5. When the plane had flown 4150 feet from the airport where it had taken off, it had covered a horizontal distance of 3660 feet. What is the angle at which the plane rose from the ground to the nearest degree?
6. At a point on the ground 46 feet from the foot of a tree, the angle of elevation of the top of the tree is 48 degrees. What is the height of the tree to the nearest foot?
7. A boy visitin Chicago views the Sears Tower from a point on the ground which is 1240 feet from the base of the building .the angle of elevation from the boy to the top of the building is 49 degrees. What is the height of the building to the nearest foot?
8. The angle of depression of an object on the ground is 14 degrees from the top of the tallest building in the world, one of the Petronas towers in Malaysia, which is 1483 feet high. What is the distance from the object to the base of the tower to the nearest foot?
9. The top of a ladder leaning against a building reaches a point on the building which is 29 feet above the ground. If the base of the ladder is 7 feet from the building, what is the measure of the angle that the ladder makes with the level ground to the nearest degree?
10. Adam and Brian are standing some distance apart on the same side of a building 50m tall. From where Adam stands, the angle of elevation of the top of the building is 30 degrees. From where Brian stands, the angle of elevation of the top of the building is 60 degrees. What is the distance x between Adam and Brian to the nearest tenth of a meter?

