

Finding Missing Sides

1. A ramp has an angle of inclination of 20° . It has a vertical height of 1.8 m. What is the length of the ramp?
2. You fly a kite 4 feet off the ground with 300 feet of string. The kite forms a 29° angle from the ground. How high is the kite from the ground?
3. A cable is attached to a pole 10 meters high. If the other end is attached to the ground 8 meters from the base of the pole. How long is the cable?
4. An airplane is flying 4000 feet above the ground. If the angle of depression to the airport runway is 12 degrees, how far is the airplane from the runway?
5. The distance from the bottom of a ramp to the back of a moving truck is 11 feet. If the angle between the ramp and the ground is 21° , how high is the back of the truck off the ground?

Finding Missing Angles

1. Suppose a 40 ft tree casts a 60 ft shadow. What is the angle of elevation from the end of the shadow to the top of the tree?
2. Two boats leave a dock at the same time. Boat A goes due North 500 feet and stops. Boat B goes due East 400 feet, stops and turns toward Boat A. What angle must B turn to face and proceed directly to Boat A?
3. A cable is attached to a pole 10 meters high. If the other end is attached to the ground 8 meters from the base of the pole. What is the angle the cable makes with the ground?
4. If a kite is 40 feet off the ground and the string holding the kite is 42 feet long, what is the angle of elevation to the kite?
5. A 15 foot ladder is leaned against a house. If the base of the ladder is 4 feet from the house, what angle does the ladder make with the ground?