

46. A radio tower is located 400 feet from a building. From a window in the building, a person determines that the angle of elevation to the top of the tower is 36° , and that the angle of depression to the bottom of the tower is 23° . How tall is the tower?
47. A radio tower is located 325 feet from a building. From a window in the building, a person determines that the angle of elevation to the top of the tower is 43° , and that the angle of depression to the bottom of the tower is 31° . How tall is the tower?
48. A 200-foot tall monument is located in the distance. From a window in a building, a person determines that the angle of elevation to the top of the monument is 15° , and that the angle of depression to the bottom of the tower is 2° . How far is the person from the monument?
49. A 400-foot tall monument is located in the distance. From a window in a building, a person determines that the angle of elevation to the top of the monument is 18° , and that the angle of depression to the bottom of the monument is 3° . How far is the person from the monument?
50. There is an antenna on the top of a building. From a location 300 feet from the base of the building, the angle of elevation to the top of the building is measured to be 40° . From the same location, the angle of elevation to the top of the antenna is measured to be 43° . Find the height of the antenna.
51. There is lightning rod on the top of a building. From a location 500 feet from the base of the building, the angle of elevation to the top of the building is measured to be 36° . From the same location, the angle of elevation to the top of the lightning rod is measured to be 38° . Find the height of the lightning rod.

- 52.** A 33-ft ladder leans against a building so that the angle between the ground and the ladder is 80° . How high does the ladder reach up the side of the building?
- 53.** A 23-ft ladder leans against a building so that the angle between the ground and the ladder is 80° . How high does the ladder reach up the side of the building?
- 54.** The angle of elevation to the top of a building in New York is found to be 9 degrees from the ground at a distance of 1 mile from the base of the building. Using this information, find the height of the building.
- 55.** The angle of elevation to the top of a building in Seattle is found to be 2 degrees from the ground at a distance of 2 miles from the base of the building. Using this information, find the height of the building.
- 56.** Assuming that a 370-foot tall giant redwood grows vertically, if I walk a certain distance from the tree and measure the angle of elevation to the top of the tree to be 60° , how far from the base of the tree am I?