Station 1

A ladder is leaning on a wall that reaches up to 8 ft above the ground. The base of the ladder is 6 ft away from the wall.

How long is the ladder?

Station 2

A tree casts a 12-ft shadow. If the tip of the tree and the tip of the shadow are 15 ft away from each other, how tall is the tree?

Station 3

The diagonal of a rectangle is 89 inches while its length is 80 inches.

What long is the width?

Station 4

What is the length of the diagonal of a square with sides equal to 10 cm?

Station 5

The captain of a boat spotted a lighthouse that is 250 ft ahead. If the lighthouse is 50 ft tall, what is the distance between the boat and the top of the lighthouse?

Station 6

The roof of a house has a shape similar to an isosceles triangle. The distance from both bottom ends of the roof is 120 ft while the diagonals are both 70 ft.

If the total height of a house is 65 ft, what is the height of the roof?