Geometry \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Right triangle trigonometry applications

1. An escalator from the ground floor to the second floor of a department store is 110 ft long and rises 32 ft. vertically. What is the escalator’s angle of elevation?

2. From the top of a lighthouse 210 feet high, the angle of depression of a boat is 27°. Find the distance from the boat to the foot of the lighthouse. Assume the lighthouse was built at sea level.

3. A radio tower 200 ft. high casts a shadow 75 ft. long. What is the angle of elevation of the sun?

4. A ladder on a fire truck has its base 8 ft. above the ground. The maximum length of the ladder is 100 ft. If the ladders greatest angle of elevation possible is 70°, what is the height above the ground that it can reach?

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