Pythagorean Theorem in Three Dimensional Figures

1. The floor of a room is 6 m by 4 m, and its height is 3 m. Find the distance from a corner point on the floor to the opposite corner point on the ceiling.
2. A cube has sides of length 3 cm. Find the length of a diagonal of the cube.
3. Determine the length of the longest piece of timber which could be stored in a rectangular shed 6 m by 5 m by 2 m high.
4. A cone has a slant height of 17 cm and a base radius of 8 cm. How high is the cone?
5. A 50 m rope is attached inside an empty cylindrical wheat silo of diameter 12 m as shown. How high is the wheat silo?