Pythagorean Theorem in 3-D Shapes

Name: _____________________________________  Date: _____________

Directions: Use the Pythagorean Theorem to find the missing length in the three-dimensional shape.

1. A 45 meter rope is attached inside an empty cylindrical wheat silo of diameter 27 meters. How high is the wheat silo?

2. The floor of a room is 6 m by 4 m and its height is 3 m. Find the distance from the corner point on the floor to the opposite corner point on the ceiling (y).

3. A cube has side lengths of 3 cm. Find the length of the diagonal of the cube.

4. A cone has a slant height of 17 cm and a base radius of 8 cm. How high is the cone?
5. Find the length of the diagonal, \( d \), of the box.

6. Find the length of the diagonal, \( d \), of the box.

7. Find the slant height, \( c \), of the cone.

8. Find the slant height of the square based pyramid.