Surface Area & Volume – Word Problems

1. A classroom has the dimensions shown.
Find:

(a) the area of the floor

(b) the volume of the room

(c) the total area of the four walls.

2. Find the surface area of a cube having an edge length of 4 feet each.

3. A room is 14 yards by 18 yards. Find the cost to carpet this room if carpet costs $2.30 per square yard.

4. The excavation for a house and the trucks to carry away the material have the dimensions shown. About how many level truck loads are necessary to remove all the dirt?

5. How many different pairs of faces are congruent in a rectangular prism that is not a cube?

   A) 1  B) 2  C) 3  D) 4
6. Determine the surface area in square inches of a rectangular prism with dimensions 4 in. by 3 in. by 2 in.

7. Determine the volume in cubic centimeters of a rectangular prism with dimensions 8 cm by 5 cm by 2 cm.

8. A rectangular strip of aluminum, 30 cm long and 10 cm wide, is rolled into the form of a cylinder. Which would have the greater volume, a cylinder 10 cm high with circumference of 30 cm or a cylinder 30 cm high with circumference of 10 cm?

9. Sandy is filling her swimming pool. The pool is in the shape of a rectangular prism and is 30 feet long, 15 feet wide, and 8 feet deep.

Sandy wants to leave the top two feet of the pool unfilled to prevent spilling. How much water will it take to fill the pool? ______________

10. A rectangular prism is 10 centimeters long, t centimeters wide, and 4 centimeters tall. What is the surface area of the rectangular prism?

11. An art student must paint and decorate a small wooden box. The width of the box is 2 cm, the height is 3 cm, and the length of the box is 5 cm. What is the surface area that the student will paint?