Measurement Application Problems.

1. Angie buys juice in rectangular cartons that are 25 cm tall, 14 cm long, and 10 m wide. She also buys cone shaped paper cups to serve the juice in that are 12 cm tall and 8 cm wide.

    a) If the cups are only filled up to 85% of their volume, how much juice does one cup hold?

    b) If Angie needs to serve one cup of juice to 150 people, how many cartons of juice will she need to buy?

    c) If the cartons cost $3.99 each, plus tax, how much will it cost Angie to purchase the juice?

2. A cubic box holds a cylindrical vase with a radius of 5 cm and a height of 17 cm. The vase just barely fits inside of the box. Calculate the amount of empty space in the box.

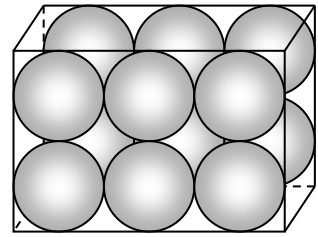3. Twelve golf balls are packed into a box, as shown. The radius of a golf ball is 2.1 cm.

a) Determine the minimum amount of cardboard required to make the box.

b) Determine the amount of empty space inside the box.

c) What percent of the box is empty space?