**MATH 10C UNIT 7** **REVIEW** (Chapter 1 – Measurement)

1. You have in front of you, a sphere with a radius *r.* What happens to **volume** and **surface area** as you:

a) Double the radius?

b) Triple the radius?

2. The large pyramid at the Muttart Conservatory in Edmonton is a square-based pyramid with all edges 26 m long.

a) Find the slant height of each triangular face of the pyramid.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) Find the vertical height of the pyramid.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) Find the total glassed area of the pyramid.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d) Find the volume of the pyramid.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Asmie’s bedroom is 13 feet long by 10 feet wide. Determine the dimensions of her bedroom in yards and feet.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Jahn drives his uncle’s van from Edmonton to Vancouver, a distance of 960 km. Convert this distance to miles (nearest tenth.)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Find the volume and surface area of a sphere with a radius of 10 inches.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. The figure at right shows a right square-based pyramid atop a rectangular prism.

20 cm

15 cm

25 cm

15 cm

a) Find the total combined volume of the composite object.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) The pyramid is open at the bottom and the rectangular prism is open at the top and closed at the bottom. Find the total surface area of the composite object.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. The prism sketched to the right has a base area of 40 square inches and a height of 3.0 inches. Find the volume of the prism.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Andrew has an empty pastry bag that he will fill with icing to decorate a cake. The bag is shaped like a cone; the open end of the bag is 6 inches across and the side of the bag is 13 inches long, as sketched to the right. Find the volume of icing Andrew can put into the bag. (Note: filling a pastry bag to the top is not a good idea!! ☹ )

13 in

6 in

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Convert each of the following.

a) 112 inches to centimeters \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) 320 inches to yards (give decimal) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) 2450 yards to miles and yards \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d) 5.65 m to centimeters \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e) 8234 inches to yards, feet and inches \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Determine each of the following for the right three-dimensional figures shown.

a)

42 in

Surface area:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

26 in

Vertical height: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

65 cm

50 cm

b)

Volume: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c)

Volume: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

34 in

50 in

*s*

Slant height *s*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Surface area (top is closed): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d) Surface area (both ends are closed) \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Volume: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4.0 cm

12 cm

11. Determine the volume of a right square pyramid with base dimensions 6 yd by 6 yd and a slant height of 10 yd. Calculate the volume to the nearest cubic yard.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_