

**Warm up:** Jared has a ball of chocolate wrapped with foil measuring a total of  $8 \text{ cm}^2$ . Kate has a ball of chocolate that is twice the radius of Jared's. How much foil is needed to wrap Kate's chocolate ball?

### Volume of Spheres

Volume of a Sphere: $V =$ _____ or $V =$ _____
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Example 1: A spherical piñata has a diameter of 22 cm. One litre of candy weighs one kilogram and candy costs \$0.79/100 g, How much will it cost to fill the piñata – don't forget to include 13% taxes. (recall:  $1 \text{ cm}^3 = 1 \text{ mL}$ )



Example 2: The radius of a sphere is tripled. How does this affect the volume of the sphere? Explain.

Example 3: A spherical gemstone just fits inside a plastic cube with edges 10 cm.

a) Calculate the volume of the gemstone, to the nearest cubic centimetre.

b) How much empty space is there?

Example 4: A snowball with volume  $237 \text{ cm}^3$  has a mass of 28 g. What is the mass of a snowball with a radius 38 cm?