**Name:**

***Study Guide 1782 ~*** *Cylinder Volume*



A cylinder is a solid shape with two circular bases.



If you need to find the volume, it is helpful to view the cylinder as a stack of discs.

 **Find the Volume**

Each disc is a circle. We can find the area of one disc using the formula π r2. The radius is 2.5 and the height is 3 cm.

 π 2.52 = π x 2.5 x 2.5 = π x 6.25

For all calculations in this lesson, use 3.14 as your approximation for π.

3.14 x 6.25 ≈ 19.63 cm2

 Each disc has volume of about 19.63 cm2.

With a height of 3 cm, we can picture that the cylinder is made from three of those circles stacked on top of each other. So the total volume of the cylinder is about 19.63 x 3.

 ≈19.63 x 3 ≈ 58.89 cm3

 **Practice**

Find the volume of each cylinder

1)

2)

3)

 **Slightly Tricky Cylinders**

Pay a bit closer attention as you answer these questions.

4)

5) Find the height of this cylinder. Its volume is approximately 339.12 cm3.

 **Cylinders to Think About**

6) Find the volume of this pipe. The inner radius is 2 cm and the outer radius is 2.4 cm.

7) This cylinder was rolled from a 3 x 5 index card. Find its volume.

 **Answers**

1) ≈ 785 cm3 2) ≈ 75.36 cm3 3) ≈ 226.08 cm3

4) ≈ 4220.16 cm3 5) 12 cm

6) ≈ 55.26 cm3 7) ≈ 6.03 cm3