

**GRADE 11 ESSENTIAL
UNIT C – 3-D GEOMETRY
VOLUME OF CYLINDERS**

Name: _____

Date: _____

SHOW WORK!

Get used to being systematic! Show units

Do Puzzle to see if answer is correct!

Big 'B' is the Base Area of the object

MrF

☆ **TRIVIA TEST** ☆

1. What Is the Best Way to Paint a Rabbit?

4 7 2 8 8 3 11 5 10 1 11 3 6

2. What Candy Do Kids Eat on the Playground?

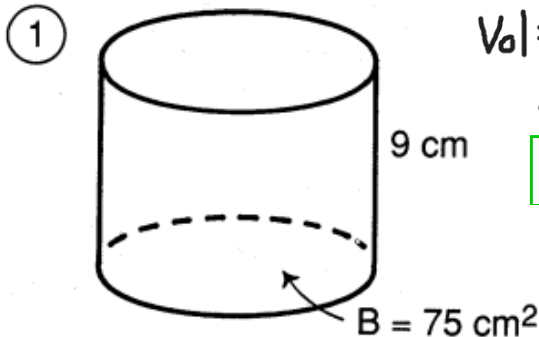
11 5 9 5 10 10 1 7 5 9 5 10

Do each exercise and find your answer in the answer column. Write the letter of the answer above the exercise number each time it appears in the code. Use 3.14 for π .

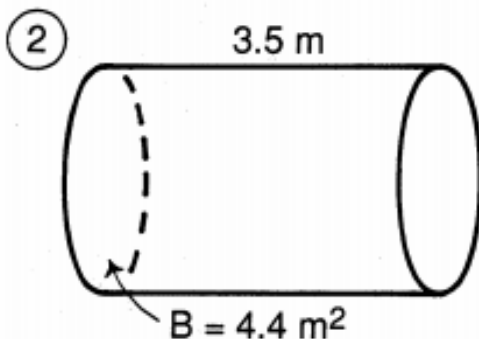
Answers

- (M) 814.13 cm³
- (C) 565.2 m³
- (N) 381.36 mL
- (A) 141.3 cm³
- (B) 14.8 m³
- (I) 602.88 in.³
- (P) 675 cm³
- (U) 7,490 m³
- (H) 1,177.5 mm³
- (R) 452.16 mL
- (W) 2,260.8 in.³
- (L) 382.8 cm³
- (T) 15.4 m³
- (Y) 846.23 cm³
- (O) 717.8 in.³
- (S) 376.8 cm³
- (G) 1,224.5 mm³
- (E) 7,850 m³
- (D) 614.2 m³

I. Find the volume of each cylinder.

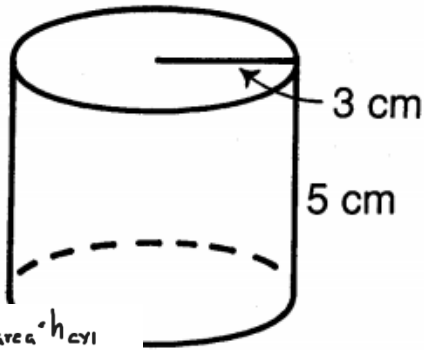


$$\begin{aligned} \text{Vol} &= \text{Base Area} \cdot h_{\text{object}} \\ &= 75\text{ cm}^2 \cdot 9\text{ cm} \\ &= 675\text{ cm}^3 \end{aligned}$$



'Base' is not necessarily on the bottom!

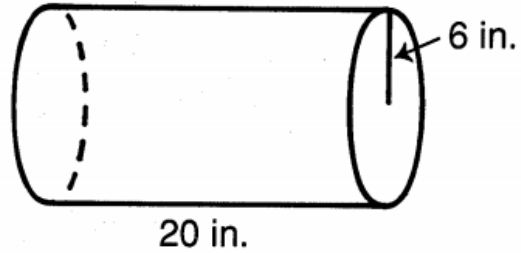
3



$$\begin{aligned}
 Vol_{cyl} &= Base_{area} \cdot h_{cyl} \\
 &= (\pi r^2) \cdot h \\
 &= 3.14 \cdot (3cm)^2 \cdot 5cm \\
 &= \underline{\quad} cm^3
 \end{aligned}$$

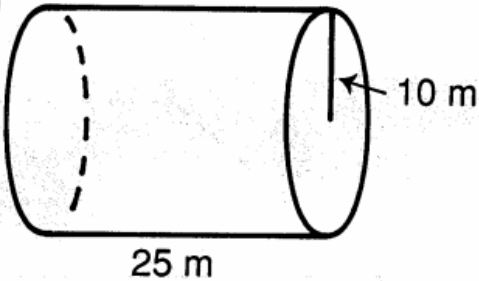
Need to calculate the **circular** Base Area yourself!

4

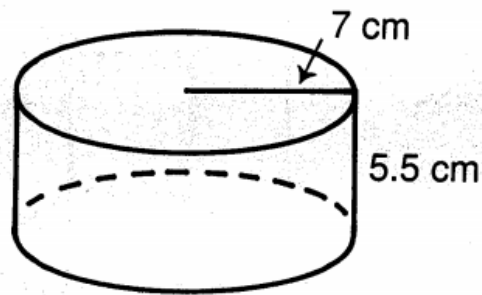


Need to calculate the Base Area yourself!
The base is not necessarily the bottom!

5



6



Did you know?
One millilitre is defined
as one cubic
centimetre!
 $1ml \equiv 1cm^3$

7 $r = 8 \text{ in.}$
 $h = 3 \text{ in.}$

8 $r = 2.5 \text{ mm}$
 $h = 60 \text{ mm}$

9 $d = 10 \text{ m}$
 $h = 7.2 \text{ m}$

II. Solve.

10 Shawn is making a candle using a cylindrical mold with a radius of 2 cm and a height of 30 cm. How many cubic centimeters of wax are needed for the candle?

11 A mug in the shape of a cylinder has a base with a radius of 4 cm. How many milliliters of liquid does it hold if filled to a height of 9 cm?
(Hint: 1 cm^3 holds 1 mL.)