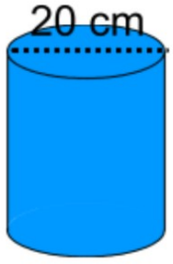
Warm Up Grade 8

1) Find the VOLUME



Given
d = 20cm
r = 10cm
H = 30cm

$V_{cyl} = A_o \times H$

$\pi r^2 \; H$

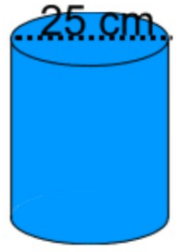
$= (3.14)(10cm)^2 \; (30cm)$

$= (3.14)\,(100cm^2)\,(30cm)$

$= 9420\,cm^3$

2) Given the following cylinder then find the area of just the base shape.

Base of cylinder is a circle



$A_o = \pi r^2$

$= 3.14\,(12.5cm)^2$

$= (3.14)\,(156.25cm^2)$

$= 490.65\,cm^2$

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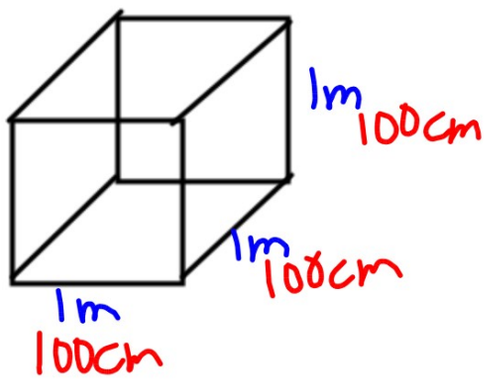
1. Volume of can $452\ cm^3$
Contents of can 398ml
Why the difference?
The can is never filled to the top with beans, and that is why the amount of beans is less than the actual volume.

2. The radius was changed to m because the height was in m.

Volume $46\ m^3$ = _____ cm^3



$V = l \times w \times h$
$= 1 \times 1 \times 1$
$= 1\ m^3$

$Vol = l \times w \times h$
$= 100 \times 100 \times 100$
$= 1\ 000\ 000\ cm^3$

$1\ m^3 = 1\ 000\ 000\ cm^3$
$46\ m^3 = 46\ 000\ 000\ cm^3$

3. The number for cm^3 is very large

4 a) $Vol = A_b \times h$
$= 78.5 \times 10$
$= 785 cm^3$

b) $Vol = A_b \times h$
$= 12.6 \times 5$
$= 63 cm^3$

6.3x10

c) $Vol = A_b \times h$
$= 201.1 \times 8$
$= 1608.8 cm^3$

5. $A_b = \pi r^2$
$= 3.14 \times 4^2$
$= 3.14 \times 16$
$= 50.24 cm^2$

$Vol = A_b \times h$
$= 50.24 \times 10$
$= 502.4 cm^3$

b) $Vol = A_b \times h$
$= 176.625 \times 50$
$= 8831.25 cm^3$

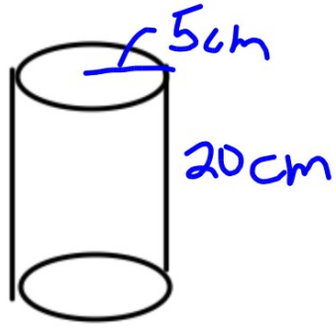
d = 15
r = 7.5

$A_b = \pi r^2$
$= 3.14 \times 7.5^2$
$= 3.14 \times 56.25$
$= 176.625 cm^2$

c) $A_b = \pi r^2$
$= 3.14 \times 2.9^2$
$= 3.14 \times 8.41$
$= 26.4074 cm^2$

$Vol = A_b \times h$
$= 26.4074 \times 12.4$
$= 327.45 cm^3$

6.



$A_b = \pi r^2$
$= 3.14 \times 5^2$
$= 3.14 \times 25$
$= 78.5 cm^2$

$Vol = A_b \times h$
$= 78.5 \times 28$
$= 1570 cm^3$

$1570 cm^3$ of wax needed.

8. $d = 10cm$
$r = 5cm$

$A_b = \pi r^2$
$= 3.14 \times 5^2$
$= 3.14 \times 25$
$= 78.5 cm^2$

$Vol = A_b \times h$
$= 78.5 \times 2.5$
$= 196.25 cm^3$

$196.25 cm^3$ of rubber needed for the hockey puck

Class/Homework

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300mm → 30cm

#9, #11, #12, #13, #14, #15

1cm = 10mm
1m = 100cm
1km = 1000m