Name _____ Date _____

11.5 Practice WS

In Exercises 1 and 2, find the volume of the prism.

$V = Bh$

1.

3 in.
4 in.
7 in.

$V = lwh$
$= (7)(4)(3)$
$= 84\ in^3$

2.

12 cm
8 cm
9 cm
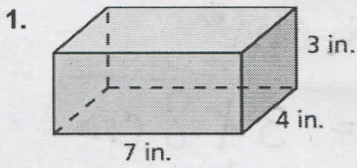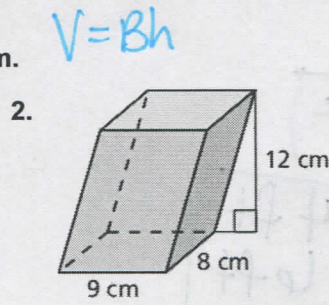
$V = lwh$
$= (9)(8)(12)$
$= 864\ cm^3$

In Exercises 3 and 4, find the volume of the cylinder. $V = Bh = \pi r^2 h$

3.

5 ft
4 ft
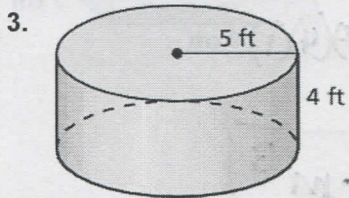
$V = \pi r^2 h$
$= \pi (5)^2 (4)$
$= 100 \pi\ ft^3$
$\approx 314.159\ ft^3$

4.

6 yd
10 yd
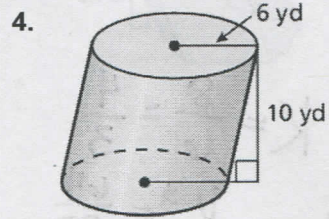
$V = \pi r^2 h$
$= \pi (6)^2 (10)$
$= 360 \pi\ (yd^3)$
$\approx 1130.973\ yd^3$

5. A cylindrical container with a radius of 12 centimeters is filled to a height of 6 centimeters with coconut oil. The density of coconut oil is 0.92 gram per cubic centimeter. What is the mass of the coconut oil to the nearest gram?
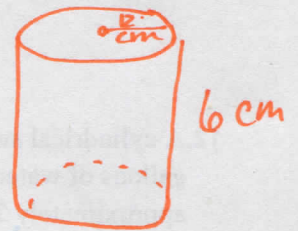
$D = \frac{m}{v}$

$0.92 = \frac{m}{864\pi}$

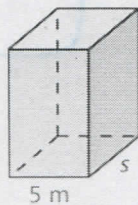$m \approx 2497.189 \quad \boxed{\approx 2497\ gm}$

$V = \pi r^2 h$
$= \pi (12)^2 (6)$
$= 864 \pi\ cm^3$

12 cm
6 cm

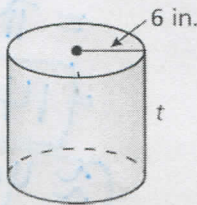**In Exercises 6 and 7, find the missing dimension.**

6. Volume = 240 m³

8 m
s
5 m

$V = Bh$
$= s^2 h$
$240 = (s)s(8)$
$\boxed{s = 6\ m}$

7. Volume = 1244 in.³

6 in.
t

$V = Bh$
$= \pi r^2 h$
$1244 = \pi (6)^2 (t)$
$\boxed{t \approx 108.559\ in}$

In Exercises 8 and 9, find the area of the base of the rectangular prism with the given volume and height. Then give a possible length and width.

8. $V = 96 \text{ ft}^3$, $h = 8$ ft

$V = lwh$

$96 = B(8)$

$\boxed{B = 12 \text{ ft}^2}$

$\boxed{l; w = \begin{array}{c} 3 \text{ \& } 4 \text{ ft} \\ 2 \text{ \& } 6 \text{ ft} \end{array}}$

9. $V = 144 \text{ cm}^3$, $h = 6$ cm

$V = Bh$

$144 = B(6)$

$\boxed{B = 24 \text{ cm}^2}$

$\boxed{l; w = \begin{array}{c} 3 \text{ \& } 8 \text{ cm} \\ 2 \text{ \& } 12 \text{ cm} \\ 4 \text{ \& } 6 \text{ cm} \end{array}}$

10. The prisms are similar. Find the volume of Prism B.

Prism A

Prism B

8 m

6 m
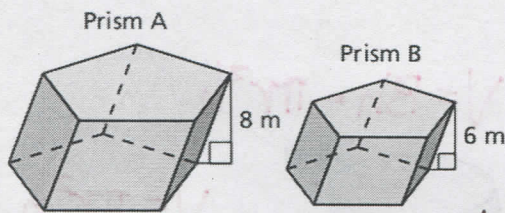
$V = 800 \text{ m}^3$

$K = \dfrac{8}{6} = \dfrac{4}{3}$

$\dfrac{A}{B} = \dfrac{800}{X} = \dfrac{64}{27}$

$k^3 = \dfrac{64}{27}$

$64x = 21600$

$\boxed{X = 337.5 \text{ m}^3}$

11. Find the volume of the composite solid.

4 cm
1 cm
2 cm
5 cm
7 cm
9 cm
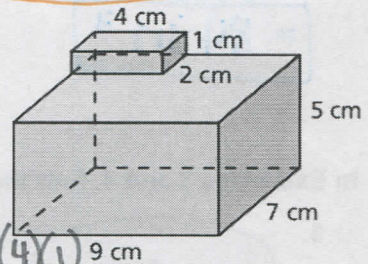
$V = B + L$

$= lwh + lwh$

$= (9)(7)(5) + (2)(4)(1)$

$= 315 + 8$

$\boxed{= 323 \text{ cm}^3}$

12. A cylindrical swimming pool is approximately 12 feet wide and 4 feet deep. About how many gallons of water does the swimming pool contain? Remember that 1 cubic foot is approximately 7.48 gallons.
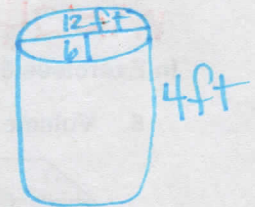
≈ 3383.872

$\boxed{\begin{array}{c} \text{about} \\ 3,384 \\ \text{gallons of} \\ \text{water} \end{array}}$

$V = Bh$

$= \pi r^2 h$

$= \pi (6)^2 (4)$

$\boxed{= 144 \pi \text{ ft}^3}$

$\boxed{\approx 452.389 \text{ ft}^3}$

12 ft

4 ft