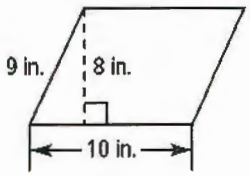
Name Answers Date Period

Review - Area, Surface Area, Volume, 8.1-8.2

Find the areas of the following. Show work (formula and algebraic steps).

1)

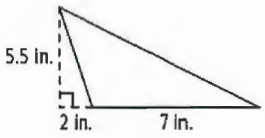


$A = bh$

$= 10 \times 8$

$= 80 in^2$

2)

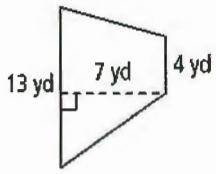


$A = \frac{1}{2}bh$

$= \frac{1}{2} \times 7 \times 5.5$

$= 19.25 in^2$

3)



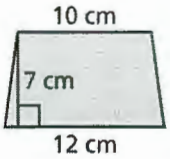
$A = \frac{1}{2}(b_1 + b_2)h$

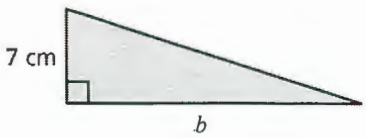
$= \frac{1}{2}(4 + 13)7$

$= \frac{1}{2}(17)7$

$= 59.5 yd^2$

4) The triangle and the trapezoid have the same area. What is the length ***b*** of the triangle?





$A = \frac{1}{2}(b_1 + b_2)h$

$= \frac{1}{2}(10 + 12)7$

$= \frac{1}{2}(22)7$

$= 77$

$A = \frac{1}{2}bh$

$77 = \frac{1}{2} \times b \times 7$

$\frac{77}{3.5} = \frac{3.5b}{3.5}$

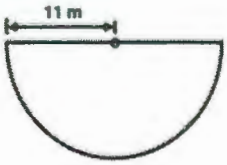
$22 cm = b$

Find the circumference (perimeter) and area of the following. Use 3.14 for π.

5)

Circumference	Area
$C = \pi d$ $= 3.14 \times 40$ $= 125.6 in$	$A = \pi r^2$ $= 3.14 \times 20^2$ $= 3.14 \times 400$ $= 1256 in^2$

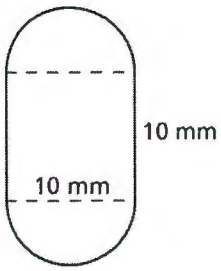
6)



Perimeter	Area
$C = \pi d$ $= 3.14 \times 22$ $= 69.08$ $\frac{69.08}{2} = 34.54$ Perimeter $= 34.54 + 22$ $= 56.54 m$	$A = \pi r^2$ $= 3.14 \times 11^2$ $= 3.14 \times 121$ $= 379.94$ $\frac{379.94}{2} = 189.97 m^2$

Find the perimeter AND area of the following. SHOW ALL WORK.

7)



$C = \pi d$
$= 3.14 \times 10$
$= 31.4$

Total Perimeter $= 31.4 + 10 + 10$
$=$

P = 51.4 mm

$A_{circle} = \pi r^2$
$= 3.14 \times 5^2$
$= 78.5$

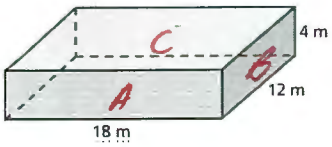
$A_{square} = bh$
$= 10 \times 10$
$= 100$

Total area $= 78.5 + 100$
$= 178.5$

A = $178.5\ mm^2$

Find the surface area AND volume of the prisms. Show work (formula and algebraic steps).

8)



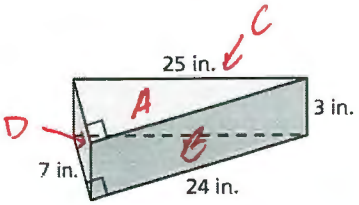
$A = 72 \times 2 = 144$
$B = 48 \times 2 = 96$
$C = 216 \times 2 = 432$
672

$V = Bh$
$= lwh$
$= 18 \times 12 \times 4$
$= 864$

SA = $672\ m^2$

V = $864\ m^3$

9)



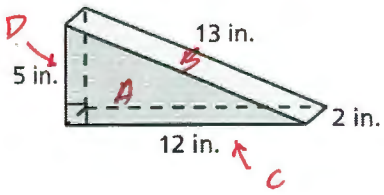
$A = 87.5 \times 2 = 175$
$B = 72$
$C = 75$
$D = 21$
343

$V = Bh$
$= \frac{1}{2}bh \times h$
$= \frac{1}{2} \times 7 \times 24 \times 3$
$= 252$

SA = $343\ in^2$

V = $252\ in^3$

10)



$A = 30 \times 2 = 60$
$B = 26$
$C = 24$
$D = 10$
120

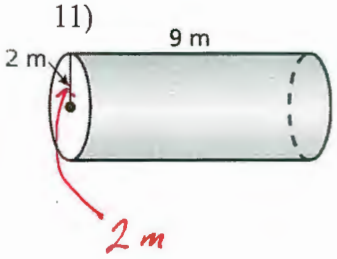
$V = Bh$
$= \frac{1}{2}bh \times h$
$= \frac{1}{2} \times 12 \times 5 \times 2$
$= 60$

SA = $120\ in^2$

V = $60\ in^3$

Find the volume of the following. Show work (formula and algebraic steps).

11)



$V = Bh$

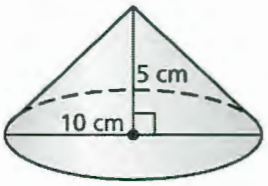
$= \pi r^2 H$

$= 3.14 \times 2^2 \times 9$

$= 113.04$

V = $113.04\ m^3$

12)



$V = \frac{1}{3}Bh$

$= \frac{1}{3}\pi r^2 H$

$= \frac{1}{3} \times 3.14 \times 5^2 \times 5$

$= \frac{1}{3} \times 392.5$

$= 130.833...$

$= 130.8$

V = $130.8\ cm^3$

13)

$V = \frac{1}{3}Bh$

$= \frac{1}{3}\pi r^2 H$

$= \frac{1}{3} \times 3.14 \times 2^2 \times 7$

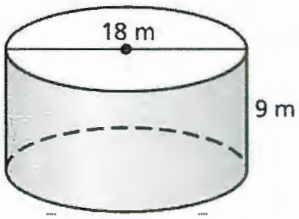
$= \frac{1}{3} \times 87.92$

$= 29.306....$

$= 29.3$

V = $29.3\ cm^3$

14)



$V = Bh$

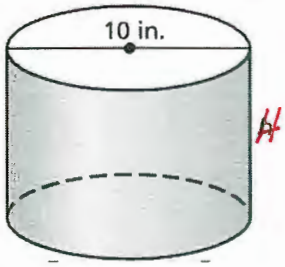
$= \pi r^2 H$

$= 3.14 \times 9^2 \times 9$

$= 2289.06$

V = $2289.06\ m^3$

15) Find the height if the volume is 550 in^3.



$V = Bh$

$V = \pi r^2 H$

$550 = 3.14 \times 5^2 \times H$

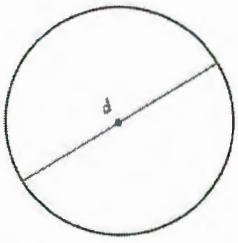
$\frac{550}{78.5} = \frac{78.5 \times H}{78.5}$

$7.006... = H$

$7 = H$

h = 7 in

16) Find the diameter if the area is 153.86 ft^2.



$A = \pi r^2$

$\frac{153.86}{3.14} = \frac{3.14 \times r^2}{3.14}$

$49 = r^2$

$7 = r$

d = 7 ft