GRADE 11 ESSENTIAL GEOMETRY WORKBOOK

A handy work book covering most of Grade10 and 11 Essential Geometry

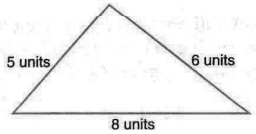
Answers are at the end.

Check out the substantial Geometry Workbook that was in Grade10 Essential also.

NAME _____

Lesson 1 Perimeter PRE-ALGEBRA

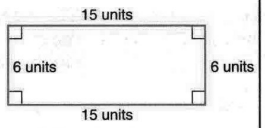
The perimeter measure (P) of a figure is equal to the sum of the measures of its sides.



Find P if $a = 5$, $b = 6$, and $c = 8$.

$P = a + b + c$
$= 5 + 8 + 6$
$= 19$

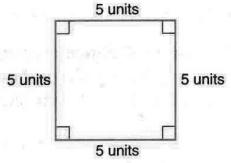
The perimeter is 19 units.



Find P if $l = 15$ and $w = 6$.

$P = l + w + l + w$
$= 2(l + w)$
$= 2(15 + 6)$
$= 2 \times 21$ or _____

The perimeter is ____ units.

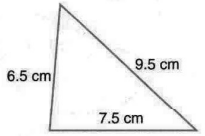
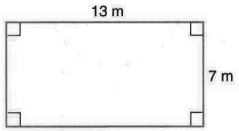
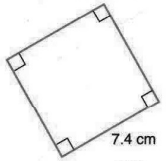
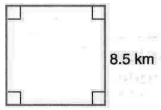
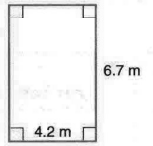
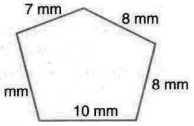
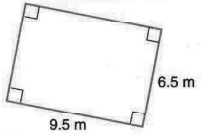
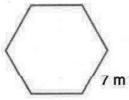


Find P if $s = 5$.

$P = s + s + s + s$
$= 4s$
$= 4 \times 5$
$=$ _____

The perimeter is ____ units.

Find the perimeter of each figure below.

	a	*b*	*c*
1.	 _____ cm	 _____ m	 _____ cm
2.	 _____ km	 _____ m	 _____ mm
3.	 _____ m	 _____ cm	 _____ m

CHAPTER 11

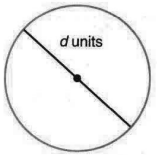
NAME _____

Lesson 2 Circumference

PRE-ALGEBRA

The ratio of the measure of the circumference to the measure of a diameter is the same for all circles. The symbol π stands for this ratio. π is approximately equal to 3.14.

The circumference measure (C) of a circle is equal to π times the measure of a diameter (d) of the circle. $C = \pi d$



Find C if $d = 7$.

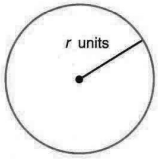
$C = \pi d$

$\doteq 3.14 \times 7$

$\doteq$ 21.98

The circumference is about _____ units.

The measure of a diameter (d) is twice the measure of a radius (r). Hence, $C = \pi d$ can be changed to $C = \pi(2r)$ or $C = 2\pi r$.



Find C if $r = 6$.

$C = 2\pi r$

$\doteq 2 \times 3.14 \times 6$

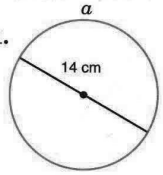
$\doteq$ _____

The circumference is about _____ units.

Find the approximate circumference of each circle below. Use 3.14 for π.

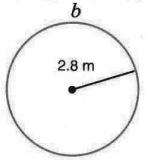
1.

a



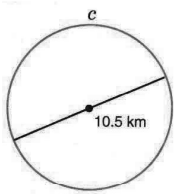
_____ cm

b



_____ m

c



_____ km

Find the approximate circumference of each circle described below. Use 3.14 for π.

a

	diameter	approximate circumference
2.	6 m	_____ m
3.	15 cm	_____ cm
4.	6.8 km	_____ km
5.	81 mm	_____ mm
6.	27 mm	_____ mm
7.	4.2 m	_____ m

b

	radius	approximate circumference
	21 mm	_____ mm
	6.7 cm	_____ cm
	48 cm	_____ cm
	37 mm	_____ mm
	9.6 m	_____ m
	4 km	_____ km

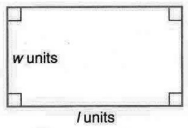
NAME _____

Lesson 3 Area of a Rectangle

PRE-ALGEBRA

The area measure (A) of a rectangle is equal to the product of the measure of its length (l) and the measure of its width (w). $A = l \times w$ or $A = lw$

Find A if $l = 9$ and $w = 5$.



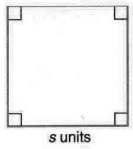
$A = lw$

$= 9 \times 5$

$=$ 45

The area is _____ square units.

Find A if $s = 3$.



$A = s \times s$ or s^2

$= 3 \times 3$

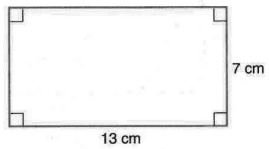
$=$ _____

The area is _____ square units.

Find the area of each rectangle below.

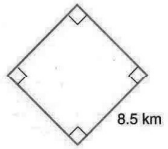
1.

a



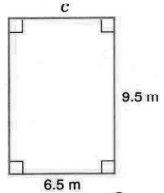
_____ cm^2

b



_____ km^2

c



_____ m^2

Find the area of each rectangle described below.

	length	width	area
2.	33 cm	27 cm	_____ cm^2
3.	5.3 m	3.5 m	_____ m^2
4.	3.8 km	2 km	_____ km^2
5.	6.7 m	6.7 m	_____ m^2
6.	9.2 cm	7.7 cm	_____ cm^2
7.	18 m	4.6 m	_____ m^2
8.	3.6 km	3.6 km	_____ km^2
9.	9.5 cm	6.6 cm	_____ cm^2

CHAPTER 11

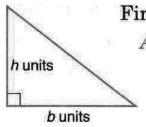
NAME _____

Lesson 4 Area of a Triangle

PRE-ALGEBRA

The area measure (A) of a triangle is equal to $\frac{1}{2}$ the product of the measure of its base (b) and the measure of its height (h). $A = \frac{1}{2}bh$ or $A = 0.5bh$

Find A if $b = 8$ and $h = 6$

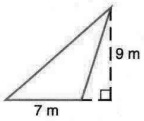


$A = \frac{1}{2}bh$

$= \frac{1}{2} \times 8 \times 6$

$= \underline{24}$

The area is _____ square units.



$A = 0.5bh$

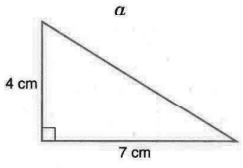
$= 0.5 \times \underline{7} \times \underline{9}$

$= \underline{\quad}$

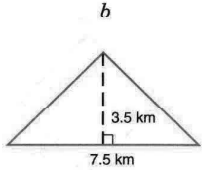
The area is _____ m^2.

Find the area of each triangle below.

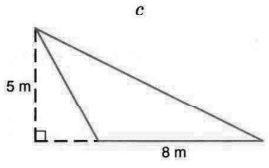
1.



_____ cm^2



_____ km^2



_____ m^2

Find the area of each triangle described below.

	base	height	area
2.	15 m	9 m	_____ m^2
3.	$3\frac{1}{2}$ mm	$6\frac{1}{2}$ mm	_____ mm^2
4.	7.4 cm	6.5 cm	_____ cm^2
5.	$11\frac{1}{2}$ m	7 m	_____ m^2
6.	154 mm	37 mm	_____ mm^2
7.	85 cm	35 cm	_____ cm^2
8.	18.8 m	7.5 m	_____ m^2
9.	9.5 km	6.6 km	_____ km^2

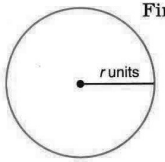
NAME _____

Lesson 5 Area of a Circle

PRE-ALGEBRA

The area measure (A) of a circle is equal to the product of π and the square of the measure of a radius (r^2) of the circle. $A = \pi r^2$

Find A if $r = 7$.



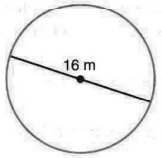
$A = \pi r^2$

$= \pi \times r \times r$

$\doteq 3.14 \times 7 \times 7$

$\doteq \underline{154}$

The area is about _____ square units.



$A = \pi r^2$

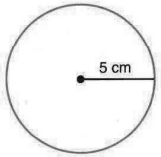
$\doteq 3.14 \times \underline{8} \times \underline{8}$

$\doteq \underline{\quad}$

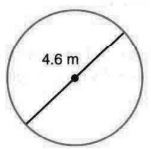
The area is about _____ square units.

Find the approximate area of each circle below. Use 3.14 for π.

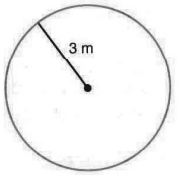
1.



_____ cm^2



_____ m^2



_____ m^2

Find the approximate area of each circle described below. Use 3.14 for π.

a

	radius	approximate area
2.	9 cm	_____ cm^2
3.	14 mm	_____ mm^2
4.	$3\frac{1}{2}$ m	_____ m^2
5.	56 cm	_____ cm^2
6.	5.3 mm	_____ mm^2
7.	45 km	_____ km^2

b

diameter	approximate area
28 mm	_____ mm^2
42 cm	_____ cm^2
72 m	_____ m^2
126 mm	_____ mm^2
84 cm	_____ cm^2
1.8 km	_____ km^2

CHAPTER 11

Lesson 5 Problem Solving PRE-ALGEBRA

Solve each problem. Use 3.14 for π.

1. The Redfords would like to build a fence around a rectangular lot. The lot is 140 m long and 50 m wide. How much fencing is needed?

_____ m of fencing are needed.

2. What is the area of the lot in problem **1**?

The area is _____ m^2.

3. Mr. McDaniel wants to put carpeting in a room that is 4 m long and 3 m wide. How many square metres of carpeting does he need?

He needs _____ m^2 of carpeting.

4. The lengths of the sides of a triangular-shaped garden are 17 m, 26 m, and 35 m. What is the perimeter of the garden?

The perimeter is _____ m.

5. The diameter of a circular pond is 28 m. What is the circumference of the pond?

The circumference is about _____ m.

6. What is the area of the pond in problem **5**?

The area is about _____ m^2.

7. Mrs. Witt is refinishing a circular table with a radius of 60 cm. Find the area of the tabletop.

The area is about _____ cm^2.

8. Find the circumference of the tabletop in problem **7**.

The circumference is about _____ cm.

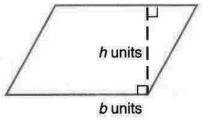
1.	2.
3.	4.
5.	6.
7.	8.

NAME _____

Lesson 6 Area of a Parallelogram PRE-ALGEBRA

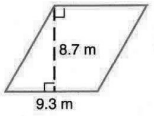
The area measure (A) of a parallelogram is equal to the product of the measure of its base (b) and the measure of its height (h). $A = bh$

Find A if $b = 14$ and $h = 9$.



$A = bh$
$= 14 \times 9$
$= 126$

The area is _____ square units.



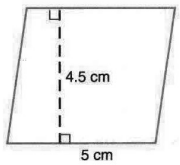
$A = bh$
$= 9.3 \times 8.7$
$=$ _____

The area is _____ m^2.

Find the area of each parallelogram below.

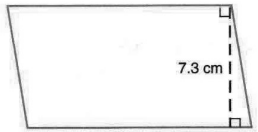
1.

a



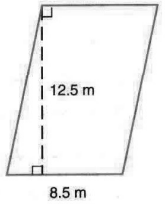
_____ cm^2

b



_____ cm^2

c



_____ m^2

Find the area of each parallelogram described below.

	base	height	area
2.	72 mm	24 mm	_____ mm^2
3.	7.5 cm	5 cm	_____ cm^2
4.	4.8 km	3.8 km	_____ km^2
5.	7.2 m	6 m	_____ m^2
6.	9.4 cm	6.7 cm	_____ cm^2
7.	9 m	7.3 m	_____ m^2
8.	16 km	12.4 km	_____ km^2

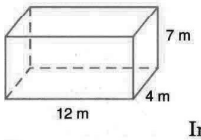
CHAPTER 11

NAME _____

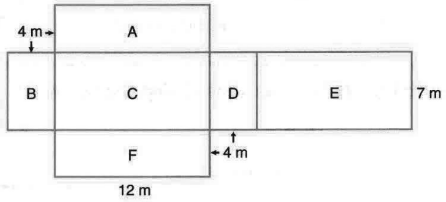
Lesson 7 Surface Area of a Rectangular Prism

The surface area (*SA*) of a rectangular prism is the sum of the areas of all its faces.

Find the surface area of the figure shown.



Imagine the rectangular prism as a flat surface.



area $A = 12 \times 4 = 48$

area $B = 4 \times 7 = 28$

area $C = 12 \times 7 = 84$

area $D = 4 \times 7 = 28$

area $E = 12 \times 7 = 84$

area $F = 12 \times 4 = 48$

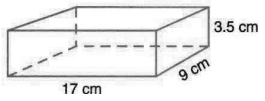
$SA = A + B + C + D + E + F$

$SA = 48 + 28 + 84 + 28 + 84 + 48 = 320$

The surface area is 320 m^2.

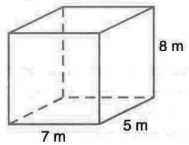
Find the surface area of each rectangular prism below.

1. *a*



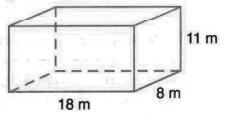
_____ cm^2

b



_____ m^2

c



_____ m^2

Find the surface area of each rectangular prism described below.

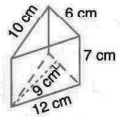
	length	width	height	surface area
2.	8 mm	11 mm	13 mm	_____ mm^2
3.	24 cm	20 cm	37 cm	_____ cm^2
4.	6.5 m	14.2 m	9.7 m	_____ m^2
5.	4.5 cm	7.8 cm	12.3 cm	_____ cm^2

NAME _____

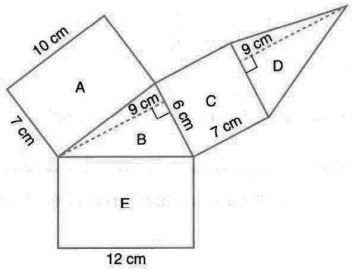
Lesson 8 Surface Area of a Triangular Prism

The surface area (*SA*) of a triangular prism is the sum of the areas of all its faces.

Find the surface area of the figure shown.



Imagine the triangular prism as a flat surface.



area $A = 7 \times 10 = 70$

area $B = \frac{1}{2} \times 6 \times 9 = 27$

area $C = 6 \times 7 = 42$

area $D = \frac{1}{2} \times 6 \times 9 = 27$

area $E = 12 \times 7 = 84$

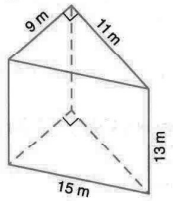
$SA = A + B + C + D + E$

$SA = 70 + 27 + 42 + 27 + 84 = 250$

The surface area is 250 cm^2.

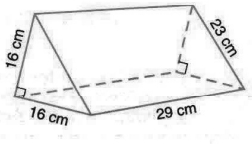
Find the surface area of each triangular prism below.

1. *a*



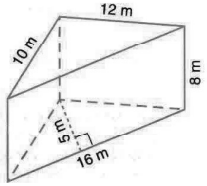
_____ m^2

b



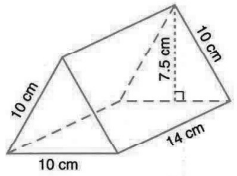
_____ cm^2

c

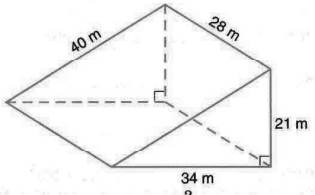


_____ m^2

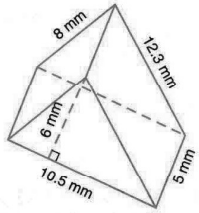
2.



_____ cm^2



_____ m^2



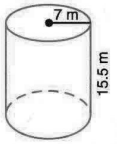
_____ mm^2

NAME _____

Lesson 9 Surface Area of a Cylinder

The surface area (SA) of a cylinder is the sum of the lateral area and twice the area of the circular base. $SA = 2\pi rh + 2\pi r^2$

Find the surface area of the figure shown. Use 3.14 for π.



$SA = 2\pi rh + 2\pi r^2$

$\doteq (2 \times 3.14 \times 7 \times 15.5) + (2 \times 3.14 \times 7^2)$

$\doteq 681.38 + 307.72$

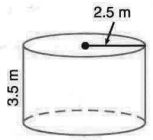
$\doteq 989.1$

The surface area is about 989.1 m^2.

Find the approximate surface area of each cylinder below. Use 3.14 for π.

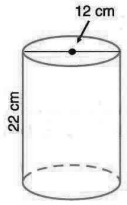
1.

a



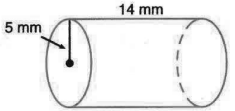
_____ m^2

b



_____ cm^2

c



_____ mm^2

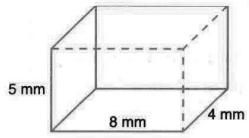
Find the approximate surface area of each cylinder described below. Use 3.14 for π.

	radius	height	approximate surface area
2.	5 cm	12 cm	_____ cm^2
3.	18 m	12.5 m	_____ m^2
4.	13.5 cm	5 cm	_____ cm^2
5.	0.75 m	1.25 m	_____ m^2
6.	53 cm	71 cm	_____ cm^2
7.	8.15 mm	16.75 mm	_____ mm^2

NAME _____

Lesson 10 Volume of a Rectangular Prism PRE-ALGEBRA

The volume measure (V) of a rectangular prism is equal to the product of the area measure of its base (B) and the measure of its height (h). $V = Bh$



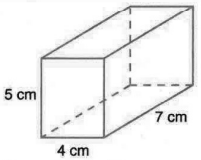
$V = Bh$

$= lwh$

$= 8 \times 4 \times 5$

$=$ 160

The volume is _____ mm^3.



$V = Bh$

$= lwh$

$=$ ___ $\times$ ___ $\times$ ___

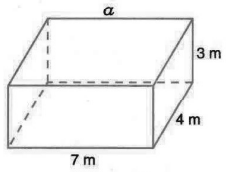
$=$ _____

The volume is _____ cm^3.

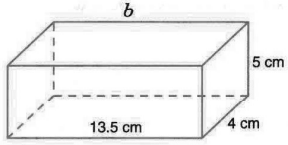
Find the volume of each rectangular prism below.

1.

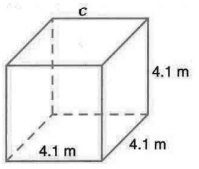
a



b

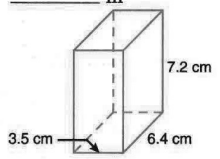


c

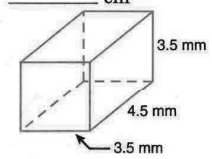


2.

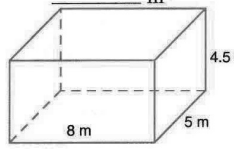
_____ m^3



_____ cm^3



_____ mm^3



_____ m^3

Find the volume of each rectangular prism described below.

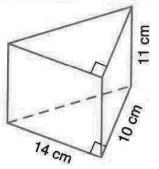
	length	width	height	volume
3.	6 cm	7 cm	8 cm	_____ cm^3
4.	4.1 m	3.7 m	2.6 m	_____ m^3
5.	3.5 cm	3.5 cm	3.5 cm	_____ cm^3
6.	28 mm	36 mm	14 mm	_____ mm^3
7.	7.3 m	2.5 m	5.7 m	_____ m^3

NAME _____

Lesson 11 Volume of a Triangular Prism PRE-ALGEBRA

The volume (V) of a triangular prism is equal to the product of the area measure of its base (B) and the measure of its height. $V = Bh$

Find the volume of the figure shown.



$V = Bh$
$V = (\frac{1}{2} \times 14 \times 10) \times 11$
$V = 70 \times 11$
$V = 770$

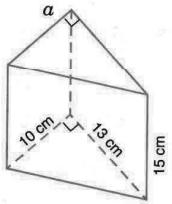
The formula for the area of the base (B) is $A = \frac{1}{2}bh$.

The volume is 770 cm^3.

Find the volume of each triangular prism below.

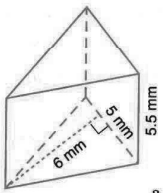
1.

a



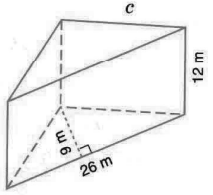
_____ cm^3

b



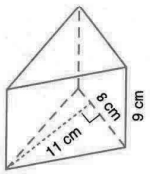
_____ mm^3

c

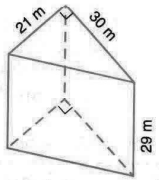


_____ m^3

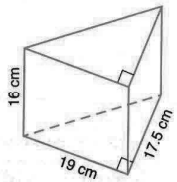
2.



_____ cm^3

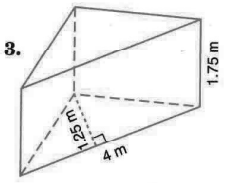


_____ m^3

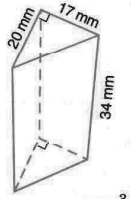


_____ cm^3

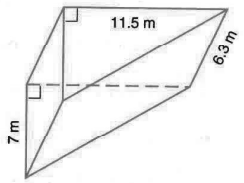
3.



_____ m^3



_____ mm^3

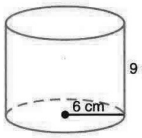


_____ m^3

NAME _____

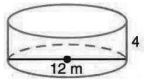
Lesson 12 Volume of a Cylinder PRE-ALGEBRA

The volume measure (V) of a cylinder is equal to the product of the area measure of its base (B) and the measure of its height (h). $V = Bh$



$V = Bh$
$= \pi r^2 h$
$\doteq 3.14 \times 6 \times 6 \times 9$
$\doteq$ 1017.36

The volume is about _____ cm^3.



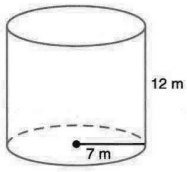
$V = Bh$
$= \pi r^2 h$
$\doteq 3.14 \times$ ___ $\times$ ___ $\times$ ___
$\doteq$ _____

The volume is about _____ m^3.

Find the approximate volume of each cylinder. Use 3.14 for π.

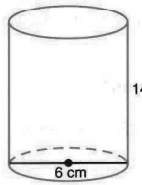
1.

a



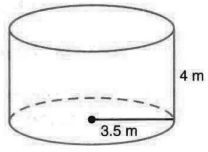
_____ m^3

b



_____ cm^3

c



_____ m^3

Find the approximate volume of each cylinder described below. Use 3.14 for π.

	radius	height	approximate volume
2.	8 cm	6 cm	_____ cm^3
3.	18 mm	9 mm	_____ mm^3
4.	1.7 m	3.4 m	_____ m^3
5.	14 mm	6.5 mm	_____ mm^3
6.	9 cm	14 cm	_____ cm^3
7.	7 m	3.8 m	_____ m^3

CHAPTER 11

Lesson 12 Problem Solving PRE-ALGEBRA

Solve each problem. Use 3.14 for π.

1. A box is 6 cm long, 4 cm wide, and 3 cm high. What is the volume of the box?

The volume is _____ cm^3.

2. A cylindrical storage tank has a diameter of 7 m and a height of 5 m. What is the volume of the storage tank?

The volume is about _____ m^3.

3. Cereal A comes in a rectangular box 20 cm wide, 6 cm deep, and 25 cm high. Find the volume of that box.

The volume is about _____ cm^3.

4. Cereal B comes in a cylindrical box that has a diameter of 13 cm and a height of 25 cm. What is the volume of that box?

The volume is about _____ cm^3.

5. Which cereal comes in the box with the larger volume? How much larger?

Cereal _____ comes in a box that has a volume about _____ cm^3 larger.

6. A classroom is 11 m long, 8 m wide, and 3 m high. What is the volume of the classroom?

The volume is _____ m^3.

7. Courtney has a cylindrical juice container with a diameter of 10 cm. Its height is 20 cm. How many cubic centimetres of juice will the container hold?

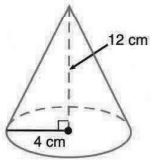
The container will hold about _____ cm^3.

1.	2.
3.	4.
5.	6.
7.	

NAME _____

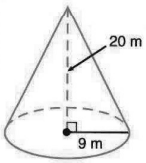
Lesson 13 Volume of a Cone PRE-ALGEBRA

The volume (V) of a cone is equal to $\frac{1}{3}$ the volume of a cylinder with the same base. $V = \frac{1}{3}Bh$



$V = \frac{1}{3}Bh$
$= \frac{1}{3}\pi r^2 h$
$\doteq \frac{1}{3} \times 3.14 \times 4^2 \times 12$
$\doteq 200.96$

The volume is about 200.96 cm^3.



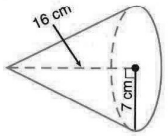
$V = \frac{1}{3}Bh$
$= \frac{1}{3}\pi r^2 h$
$\doteq \frac{1}{3} \times 3.14 \times 9^2 \times 20$
$\doteq 1695.6$

The volume is about 1695.6 m^3.

Find the approximate volume of each cone. Use 3.14 for π.

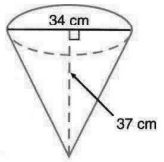
1.

a



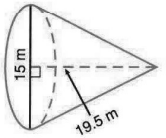
about _____ cm^3

b



about _____ cm^3

c



about _____ m^3

Find the approximate volume of each cone described below. Use 3.14 for π.

	radius	height	approximate volume
2.	10 cm	15 cm	_____ cm^3
3.	4 m	5.25 m	_____ m^3
4.	34 mm	57 mm	_____ mm^3
5.	11 m	1.5 m	_____ m^3
6.	19 cm	24.75 cm	_____ cm^3
7.	0.58 m	1.35 m	_____ m^3

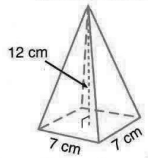
CHAPTER 11

NAME _____

Lesson 14 Volume of a Pyramid

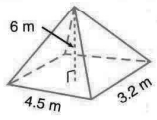
PRE-ALGEBRA

The volume (V) of a pyramid is equal to $\frac{1}{3}$ the volume of a rectangular prism with the same base. $V = \frac{1}{3}Bh$



$V = \frac{1}{3}Bh$
$= \frac{1}{3} \times 7 \times 7 \times 12$
$= 196$

The volume is 196 cm^3.



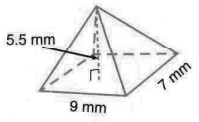
$V = \frac{1}{3}Bh$
$= \frac{1}{3} \times 3.2 \times 4.5 \times 6$
$= 28.8$

The volume is 28.8 m^3.

Find the volume of each pyramid.

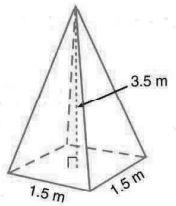
1.

a



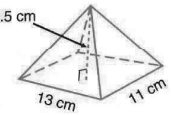
_____ mm^3

b



_____ m^3

c



_____ cm^3

Find the volume of each pyramid described below.

	length of base	width of base	height	volume
2.	9 cm	9 cm	15 cm	_____ cm^3
3.	12 mm	8 mm	10 mm	_____ mm^3
4.	9 cm	15 cm	9.9 cm	_____ cm^3
5.	0.6 m	0.4 m	0.8 m	_____ m^3
6.	8.25 cm	10.5 cm	6 cm	_____ cm^3
7.	12.75 mm	12.75 mm	5 mm	_____ mm^3

NAME _____

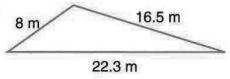
Lesson 15 Perimeter, Area, and Volume

PRE-ALGEBRA

Find the perimeter or circumference of each figure below. Use 3.14 for π.

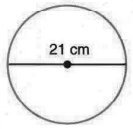
1.

a



_____ m

b

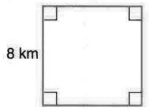


about _____ cm

Find the area of each figure below. Use 3.14 for π.

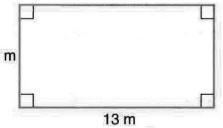
2.

a



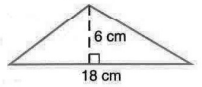
_____ km^2

b



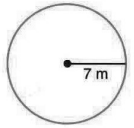
_____ m^2

c

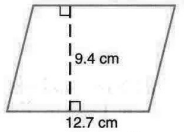


_____ cm^2

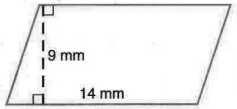
3.



about _____ m^2



_____ cm^2

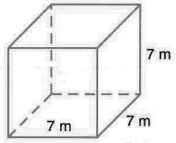


_____ mm^2

Find the volume of each figure below. Use 3.14 for π.

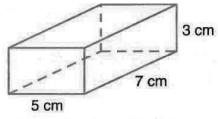
4.

a



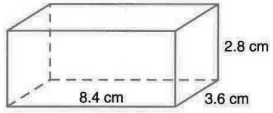
_____ m^3

b

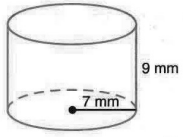


_____ cm^3

5.



_____ cm^3



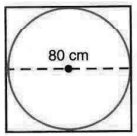
about _____ mm^3

CHAPTER 11

Lesson 15 Problem Solving PRE-ALGEBRA

Solve each problem. Use 3.14 for π.

1. A carpenter cut a circular shelf from a square piece of wood as shown at the right. Find the area of the square piece of wood. Find the area of the circular piece of wood.



The area of the square piece is _____ cm^2.

The area of the circular piece is about _____ cm^2.

2. The carpenter threw away the wood left over after cutting out the circular piece. How much wood was thrown away?

_____ cm^2 were thrown away.

3. Find the circumference of the circular piece of wood in problem **1.**

The circumference is about _____ cm.

4. A farmer has a field shaped like a parallelogram. The base is 1500 m. The height is 1200 m. Find the area of the field.

The area is _____ m^2.

5. If the farmer puts a fence around the field in problem **4,** how much fencing will be needed?

_____ m of fencing will be needed.

6. How many cubic metres of earth will be removed to dig a well 2 m in diameter and 28 m deep?

About _____ m^3 of earth will be removed.

7. A tank is 150 cm long, 120 cm wide, and 185 cm deep. Find its volume.

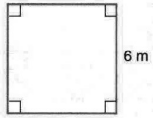
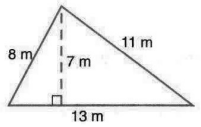
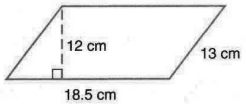
The volume is _____ cm^3.

1.		
2.	3.	
4.	5.	
6.	7.	

NAME _____

CHAPTER 11 PRACTICE TEST
Perimeter, Area, and Volume

Find the perimeter and area of each figure.

	a	*b*	*c*
1.			
perimeter:	_____ m	_____ m	_____ cm
area:	_____ m^2	_____ m^2	_____ cm^2

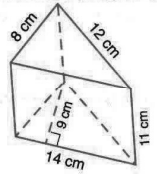
Complete the table below. Use 3.14 for π. Find the approximate circumference and area.

	diameter	radius	approximate circumference	approximate area
2.	8 cm	_____ cm	about _____ cm	about _____ cm^2
3.	_____ m	5 m	about _____ m	about _____ m^2

Find the surface area of each figure. Use 3.14 for π.

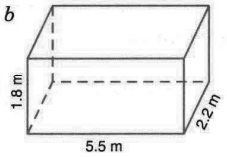
4.

a



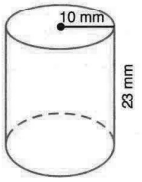
_____ cm^2

b



_____ m^2

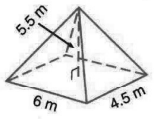
c



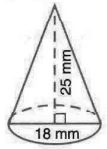
about _____ mm^2

Find the volume of each figure. Use 3.14 for π.

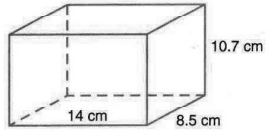
5.



_____ m^3



about _____ mm^3



_____ cm^3

CHAPTER 11

GRADE 11 ESSENTIAL GEOMETRY WORKBOOK ANSWERS

No units are given in this answer key for purposes of brevity. But make sure *your* answers ***include the units***! Distance and perimeter are measured in units, area in square units [units^2], and volume in cubic units [units^3].

If you find your answer is different from these here then there is a very slight chance that mine is the incorrect answer.

Lesson 1: Perimeter

Example 2: 42 Example 3: 20

1a. 23.5 1b. 40 1c. 29.6 2a. 34 2b. 21.8 2c. 42
3a. 32 3b. 41.6 3c. 42

Lesson 2: Circumference

Example 2: 37.68
1a. 43.98 1b. 17.59 1c. 32.99
2a. 18.85 2b. 131.95
3a. 47.12 3b. 42.10
4a. 21.36 4b. 301.59
5a. 254.4 5b. 232.48
6a. 84.82 6b. 60.32
7a. 13.20 7b. 25.13

Lesson 3: Area Rectangle

Example 2: 9

1a. 91 1b. 72.25 1c. 61.75

2. 891 3. 18.55 4. 7.6 5. 77.89
6. 70.84 7. 82.8 8. 12.96 9. 62.7

Lesson 4: Area Triangle

Example 2: 31.5

1a. 14 1b. 13.13 1c. 20
2. 67.5 3. 11.38 4. 24.05 5. 40.25
6. 2849 7. 1487.5 8. 70.5 9. 31.35

Lesson 5: Area Circle

Example 2: 200.96

1a. 78.54 1b. 16.62 1c. 28.27
2a. 254.47 2b. 615.75
3a. 615.75 3b. 1385.4 4a. 38.49 4b. 4071.5
5a. 9852 5b. 12469 6a. 88.25 6b. 5541.8
7a. 6361.7 7b. 2.54

PROBLEM SOLVING
1. 380 2. 7000 3. 12 4. 78
5. 87.96 6. 615.75 7. 11,309 8. 377

Lesson 6: Area Parallelogram
Example 2: 80.91

1a. 22.5 1b. 99.28 1c. 106.25
2. 1728 3. 37.5 4. 18.24 5. 43.2
6. 62.98 7. 65.7 8. 198.4

Lesson 7: Surface Area Rectangular Prism

1a. 488 1b. 262 1c. 860
2. 670 3. 4216 4. 586.18 5. 372.78

Lesson 8: Surface Area Triangular Prism

1a. 554 1b. 1840.27 1c. 384
2a. 495 2b. 3374 2c. 217

Lesson 9: Surface Area Cylinder

1a. 94.25 1b. 1055 1c. 596
2. 534.07 3. 3449.5 4. 1569.2 5. 9.42
6. 41,293 7. 1,275.1

Lesson 10: Volume Rectangular Prism

Example 2: 140
1a. 84 1b. 270 1c. 68.92
2a. 161.28 2b. 55.13 2c. 180
3. 336 4. 39.44 5. 42.88 6. 14,112 7. 104.03

Lesson 11: Volume Triangular Prism

1a. 975 1b. 82.5 1c. 1404
2a. 396 2b. 9135 2c. 2660
3a. 4.375 3b. 5.780 3c. 253.58

Lesson 12: Volume Cylinder

Example 2: 452.2

1a. 1847.26 1b. 395.84 1c. 153.94
2. 1206.4 3. 9160.9 4. 30.87 5. 4002.4
6. 3562.6 7. 584.98.

PROBLEM SOLVING

1. 72 2. 192.42 3. 3000 4. 3318 5. B/318
6. 264 7. 1570.80

Lesson 13: Volume Cone

1a. 821 1b. 11198 1c. 1149
2. 1570.8 3. 87.97 4. 69002 5. 190.07 6. 9356.4
7. 0.486

Lesson 14: Volume Pyramid

1a. 115.5 1b. 2.63 1c. 452.8

2. 405 3. 320 4. 445.5 5. 0.064
6. 173.25 7. 270.94

Lesson 15: Perimeter, Area, Volume Practice

1a. 46.8 1b. 65.97 2a. 64 2b. 91 2c. 54
3a. 153.9 3b. 119.38 3c. 126
4a. 343 4b. 105 5a. 84.67 5b. 1385

PROBLEM SOLVING

1. 64 & 5026.55 2. 1374 3. 251.33 4. 1,800,000
5. no solution 6. 87.96 7. 3.33 Million

Practice Test

1a. 24 & 36 1b. 32 & 45.5 1c. 63 & 222
2. 8 & 4 & 25.13 & 50.27 3. 10 & 5 & 31.4 & 78.54

4a. 500 4b. 51.92 4c. 2073
5a. 49.5 5b. 2121 5c. 1273.3