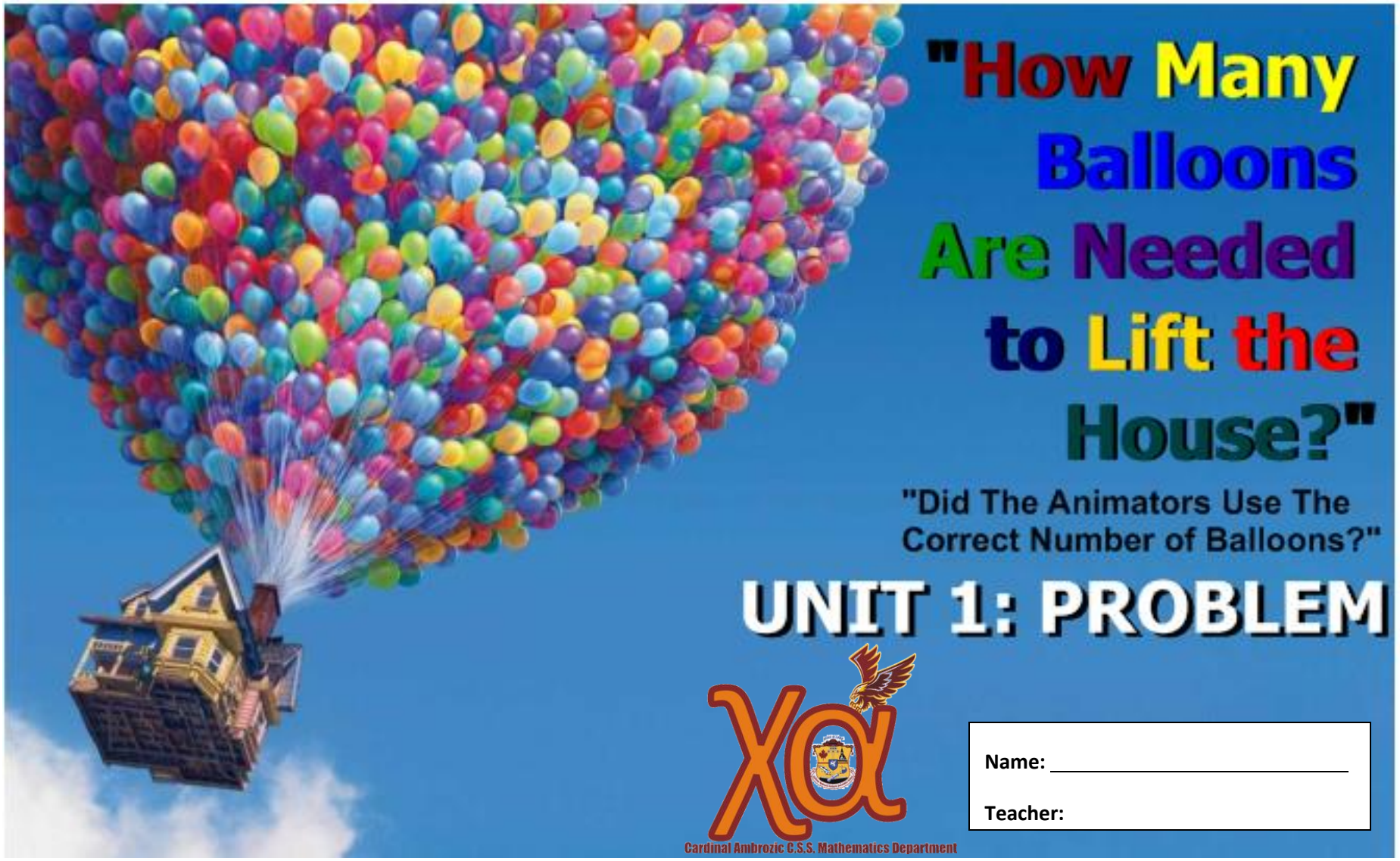


MEASUREMENT | Grade 9 Academic Mathematics Student Workbook | MPM1D1

"Making decisions in light of gospel values with an informed moral conscience"

Cardinal Ambrozic C.S.S. | http://www.dpcdsb.org/AMBRO

Unit 1: "How Many Balloons Are Needed to Lift the House?" [Measurement]
Theme 1: Movie Theatre Snack Shopping: Are Consumers Getting Value?

Activity Number	Lesson Title & Topics	Topics	Homework
1	**Proportional Reasoning**		
2	**The Pythagorean Theorem**	SB Diagnostic of Area Shapes and formula Rope Stretchers Developing The Theorem Geometer's Sketchpad Activity	p. 423-424, #1-10
3	**Perimeter and Area of Composite Figures**	Various 2D Shapes	Worksheet 2, 3 Pg. 432 # 1-4, 16a, 17
4	**Volume of Prisms, Pyramids, Cones, Cylinders and Spheres Part I** **Volume of Prisms, Pyramids, Cones, Cylinders and Spheres Part II**	Carousel Summary	8.3 #4, 6, 9, 14a 8.3 #2, 8, 11 8.5 #1cd, 5, 8 8.7 #1c, 5, 7
5	**Surface Area I** **Surface Area II**	Surface Area Poster Problem Activity Pictures of Each Solution Online	8.3 #1a, 2b, 3b, 11 8.4 #2, 3, 4, 6, 9, 10 8.6 #3, 4, 7 8.7 #7, 8, 9, 11 ,14
	Quiz		p.472 Chapter 8: Practice Test #1-5,6,9,10
6	Optimization	TI-Nspires	Complete Graph and Table on 1.6 9.2 # 2-6, 8, 9
1.8	Review		Chapter 8 Review #1,3, 5b, 7, 8, 10, 13, 15 Chapter 9: -Review #3, 4 -Practice Test #1
-	**Paper and Pencil Assessment**		Pre-Chapter Review 7 ALL
1.10	Summative Task: **"UP"**		Pre-Chapter Review 7 ALL

Checklist

I understand and can correctly complete questions involving:

___ Apply the Pythagorean Theorem to right angled triangles:

___ determine the measure of the hypotenuse given two sides of a right angle triangle.

___ determine the measure of the side of a right angle triangle given the hypotenuse and one side.

Determine the Volume and Surface Area of :

___ Rectangular Prisms
___ Cylindrical Prisms
___ Triangular Prisms
___ Right Pyramids
___ Cones

Determine the maximum area of a rectangle given a fixed perimeter or minimum perimeter of a fixed volume

___ when the perimeter encloses 4 sides of the rectangle.

___ when the perimeter encloses 3 sides of the rectangle.

___ Optimal Volume of various 3D objects
___ Optimal Surface Area of various 3D objects

Parent/Guardian Signature: _____

1.1 Proportional Reasoning

Cardinal Ambrozic C.S.S. Mathematics Department

Minds On: Think, Pair, Share

The Algonquin Fisheries Assessment Unit (AFAU) has operated in the Park since 1975, while the Harkness Laboratory of Fisheries Research has collected data since 1936.

Their long-term research and monitoring have been invaluable to our understanding of cold-water lakes and their fragile ecosystems. The research data have been used to set fishing seasons, possession limits, and other regulations that protect the fishery. Knowledge gained in Algonquin has been applied to other similar cold-water lakes across Ontario. Long-term monitoring allows us to determine the health of a lake and its fish populations. Trends in fish abundance, size, growth rates, and species composition are important to our understanding of how these fragile lakes function.

Fisheries staff use aircraft and boats and motors to safely and effectively transport heavy equipment. This year, you may encounter staff on Opeongo, Smoke, Dickson, Scott and Stringer Lakes. Every effort is made to contact campers and canoe trippers who may be present on the lake(s) and we hope our fisheries research activities are not too intrusive.

How You Can Help with Fisheries Assessment in 2013

to monitor the condition of these irreplaceable fisheries. Since the early 1990s, the AFAU has been relying on the co-operation and good will of anglers to provide information on their efforts and trout catches from backcountry lakes. Thank you!

Did You Catch a Tagged Fish?

Fish have been tagged in a number of Park lakes, including: Dickson, Scott, Smoke, Stringer and Opeongo. We tag fish primarily to make an estimate of population sizes, survival and growth rates. If you catch a tagged fish, please report it to any Park office or contact:

Harkness Laboratory of Fisheries Research
P.O. Box 110, Whitney, ON, K0J 2M0
(613) 637-2103 www.harkness.ca or
Algonquin Fisheries Assessment Unit
P.O. Box 219, Whitney, ON, K0J 2M0
(613) 637-2780 ext. 270, 271

Scan for more information about Algonquin's Brook Trout Lakes

How to Release Fish

Research has shown very good survival rates with released trout when handled properly. Special regulations in some Park lakes require that you release trout of a certain size and it is important to know how to do this effectively.

1. Fish with sharp barbless hooks: simply press down the small barb with a pair of pliers. You will not lose a fish so long as constant pressure is applied during its playing, and hooks may be backed out easily when the trout is landed. In addition, should you impale yourself with a hook, it can be removed readily by backing it out (not so simple when a hook is barbed).
2. Use line of sufficient breaking strength to minimize playing time. A fish played too long may become too exhausted to recover.
3. Keep a fish in the water as much as possible, and if you plan to release it, use pliers to unhook it in the water alongside your canoe. Don't allow a fish to flop on land or in your canoe.
4. Gentle handling is essential. A rubber landing net and a bricklayer-type glove are two valuable fish handling aids. Do not put fingers in the gills or eyes. Hands should be kept wet when handling fish.
5. Remove hooks quickly with long-nose pliers. If you are using bait and the fish is deeply hooked, cut the line and leave in the hook. Do not tear out hooks; they will not harm the fish.
6. To revive a tired fish, hold it upright on the surface by the tail area, using a cotton mesh glove. Apply "artificial respiration" by slowly moving the fish forward and backward so that water flows over the gills. Repeat in a rhythm similar to breathing. When the fish begins to struggle, release it.

Fish Lead Free!

Lead is a toxic substance, and a single lead sinker or jig contains enough lead to kill a Common Loon or other waterbird! It is estimated that 20-30% of loon mortalities in eastern Canada are due to lead poisoning from the ingestion of lead-containing sinkers or jigs that are used in angling. Sinkers and jigs made from materials such as bismuth, clay, steel, and tin that are not poisonous to birds are readily available.

Lead poisoning does not have to happen.

For more information:
www.cws-scf.ec.gc.ca/fishing

Peter Ferguson

Think, Pair, Share

1. What is fish tagging?

2. What is the purpose for tagging fish?

3. What does an angler do when they catch a tagged fish?

4. Explain how the Ministry of Natural Resources count the population of a species of fish in any lake.

Action!

The shoebox is your "lake." It has an unknown quantity of fish (colour tiles). You cannot see how many fish are in the lake. The total number of **tagged** fish and colour can be found on the top of each box or "lake".

- Take a handful of the fish. (Between 10 to 15)
- Count the number of tagged fish and place them back into the lake.
- Record this number. Mix the tiles up
- Pass the lake box to the next person in your group
- Repeat the process with the new group member

With your group member, discuss a method to calculate the total number of fish in your lake. Each person in the group will then calculate the total number of fish in the group lake.

Problem:

A math class is considered engaging when 12 boys and 15 girls are in attendance. A new math class is being created and must follow the same ratio as above. This class is expected to have 190 girls. How many boys must be present?

Terms and Definitions

Ratio:

A ***ratio*** is a comparison of two quantities with the **SAME** units.

A ratio can be written in **three** ways:

Ex) The ratio of boys to girls is: (i) 12 _____ 14 (ii) 12_____14 (iii) $\frac{12}{14}$

(words) (colon) (fraction)

Like fractions, ratios must always be written in simplest or lowest terms.

Rate:

A ***rate*** is a comparison of two quantities with **DIFFERENT** units.

Ex) A speed of 50km/2h is a rate.

A rate is usually written as a ***unit rate*** with a second term of 1.

Ex) A speed of **100*km/h*** is a unit rate, ***100km : 1 hour***

Proportion:

A ***proportion*** is a comparison of two or more equal ratios or rates.

Ex) Determine if each is proportional (equivalent)

a) 3:5 = 9:15 b) 8:4.5 = 1.6:0.9 c) 3.5:5 = 7:15

Problem 1: Which Is The Better Buy?

Theme Problem: Movie Theatre Snack Shopping: Are Consumers Getting Value?

Be careful where you shop. Shop wisely by keeping your math skills sharp. Sometimes it looks like your are getting a deal but your really are not.

Problem: Where would you shop?

STORE A

STORE B

$4.99

+ my shopping list

Mastro extra virgin olive oil

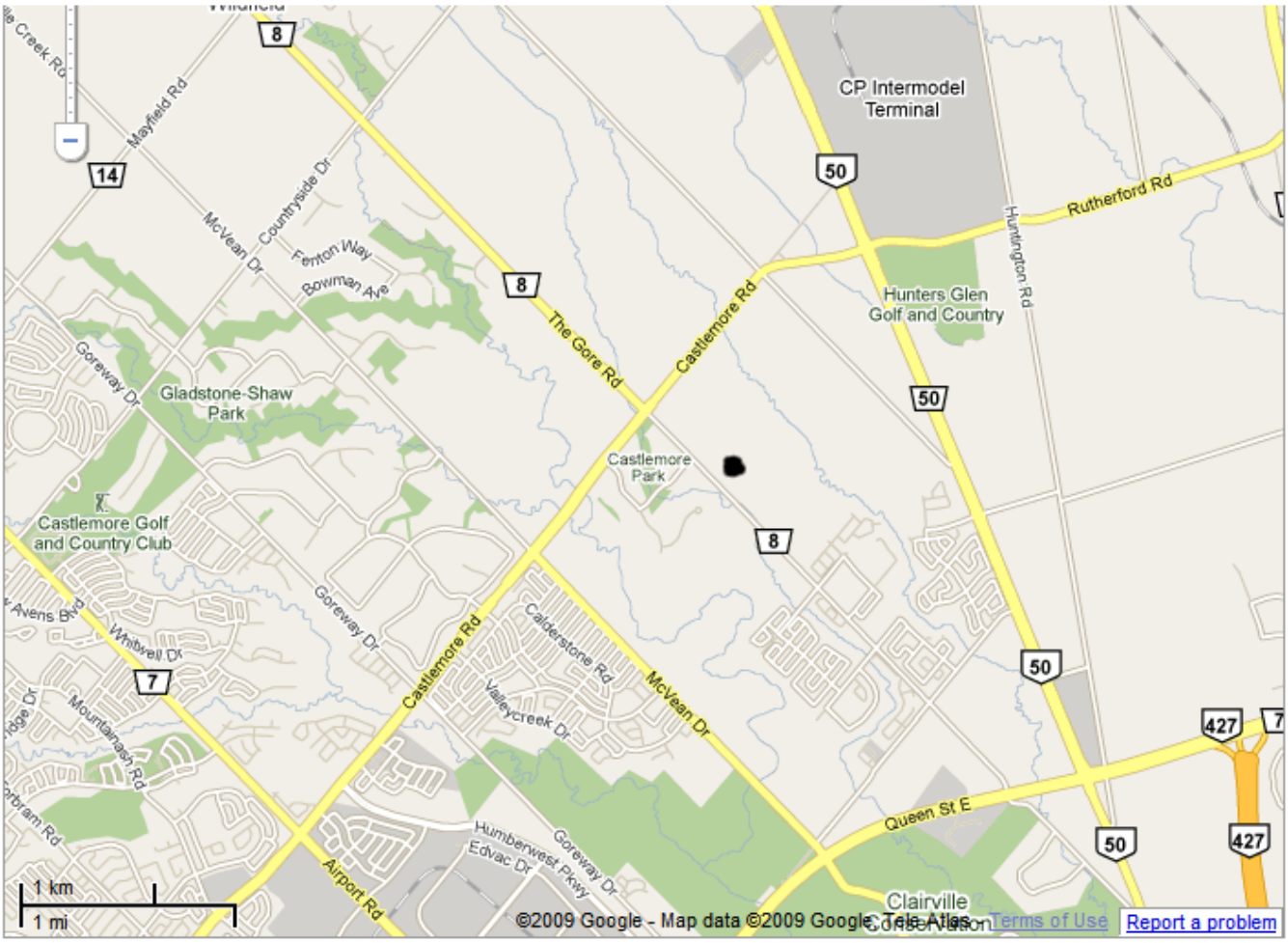
1 L

STORE A

STORE B

Problem 2: Map Scaling

Use the scale below, determine the following



What is the scale of the map below? _____

Using a piece of string/ruler and the scale on the map determine the actual driving distance from the following locations:

1. Cardinal Ambrozic to corner of Airport Road/Castlemore

2. Cardinal Ambrozic to the corner of The Gore/Mayfield

Problem 4: More Proportion Problems

1. If a **4GB** MP3 player stores **976** songs, how many songs would 3GB of memory store?

2. In a theatre, the ratio of boys to girls is 3:4 (This means 3 boys for every 4 girls). If there are 24 boys in the theatre, how many girls are there?

3.

A student council collects aluminum pop tabs to raise money to purchase a wheelchair. A company buys the pop tabs for $0.88 per kilogram.

If 1267 pop tabs have a mass of one pound, how many pop tabs are needed to purchase a wheelchair worth $1500?

Show your work.

Hint:
1 kilogram = 2.2 pounds

Practice

1. Write each fraction as a decimal.

a) $\frac{7}{100}$ b) $\frac{15}{100}$ c) $\frac{35}{100}$ d) $\frac{80}{100}$ e) $\frac{120}{100}$

2. Determine each value.

a) 10% of \$365 b) 25% of 50 kg c) 50% of 28 m d) 125% of 120 g

3. A jacket was regularly priced at \$159.99.
It was marked down by 30%. What was the sale price of the jacket?

4. During January, 50 000 new vehicles were sold in Ontario.
About 20% of these were leased. How many vehicles were leased?

5. A video game sells for \$59.99.

a) How much is the sales tax on the game?

b) What is the price including taxes?

6. Skis regularly sell for \$350.
They are on sale at 45% off. What is the total cost, including taxes?
Think of a different way to solve this problem.

7. There were 288 spectators at the football game.
75% were cheering for the home team.

a) How many spectators were cheering for the home team? Explain.

b) 40% of the spectators were students.
How many spectators were adults? How do you know?

We use percents when we calculate simple interest.

Example

Emma borrows \$1200 for 6 months.
The annual interest rate is 6%.
How much simple interest does Emma pay?

Solution

Method 1: Use ratios

For one year, the ratio of simple interest to the loan is equal to the ratio of the interest rate to 100%.

Let x dollars represent the simple interest.

Then, $\frac{x}{1200} = \frac{6}{100}$

$1200 \times \frac{x}{1200} = \frac{6}{100} \times 1200$

$x = \frac{7200}{100}$

$x = 72$

The interest for 1 year is \$72, so the interest for 6 months is: $\frac{\$72}{2} = \$36$

Method 2: Use algebra

a) Use the formula: $I = Prt$

I is the simple interest in dollars.

The principal, P, is \$1200.

The annual interest rate, r, is 6%, or 0.06.

Since time, t, is measured in years, write 6 months as a fraction of a year: $\frac{6}{12}$

Substitute: $P = 1200$, $r = 0.06$, and $t = \frac{6}{12}$

So, $I = 1200 \times 0.06 \times \frac{6}{12}$

$= 36$

Emma pays \$36 simple interest.

8. Connor borrows \$5000 for 9 months. The annual interest rate is 8%.
How much simple interest does Connor pay?

9. John put \$500 in a savings account for 8 months. The annual interest rate is 2%.

a) How much simple interest does the money earn?

b) How much money is in the account after 8 months?

10. **Assessment Focus** A credit card company charges 24% per year on outstanding balances.

a) How much interest would be charged on an outstanding balance of \$900 for 90 days?

b) How much is owed at the end of 90 days?

Show your work.

11. **Take It Further** Marie borrowed \$3500 for 6 months.
She paid \$140 simple interest.
What was the annual interest rate?
How could you check your answer?

In Your Own Words

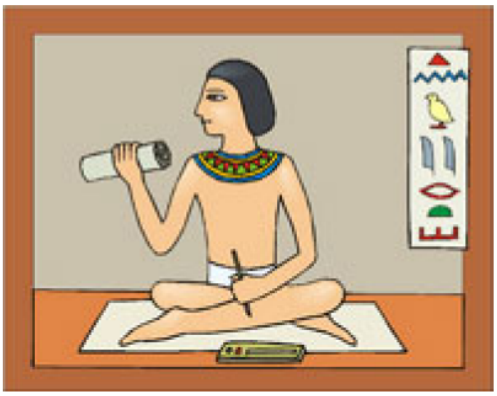
What do you find most challenging when you solve problems involving percent?
Use a question from this section to explain.
How might you overcome this difficulty?

1.2 The Pythagorean Theorem

Unit 1: Measurement Relationships and Optimization

Introduction: Rope Stretchers

In ancient Egypt, mathematicians developed many useful ideas for everyday living. One example was used by Egyptian farmers. Each year the Nile River flooded, leaving behind a stretch of fertile land where the Egyptians grew their crops of barley and emmer wheat. But, when the river flooded, the boundaries of the fields were lost and had to be accurately "redrawn." Egyptian surveyors or "rope stretchers" used lengths of ropes with equally spaced knots tied in them to measure land boundaries. When two fields bordered one another, the rope stretchers had to measure a right angle to form the corners of the fields. The establishment of boundaries was also important because the area of the land determined the amount of taxes, and the scribes kept the accounts for taxation.



Excerpted from http://www.edhelper.com/ReadingComprehension_35_193.html
July 26, 2005

Literacy Connections

1. Why do the rope stretchers need to redraw the boundaries every year.

2. Why is it important to have boundaries?

3. Why is it important that the boundaries are 90˚?

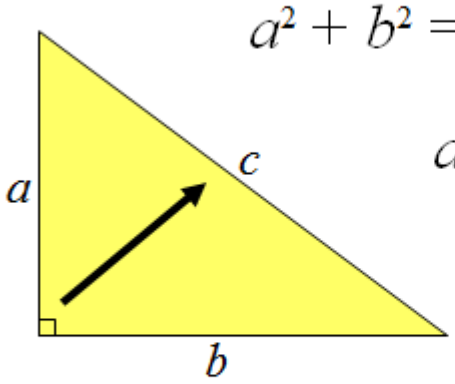
4. Provide examples where you could use this technique today.

The Pythagorean Theorem

$$a^2 + b^2 = c^2$$

OR

$$a^2 = c^2 - b^2$$



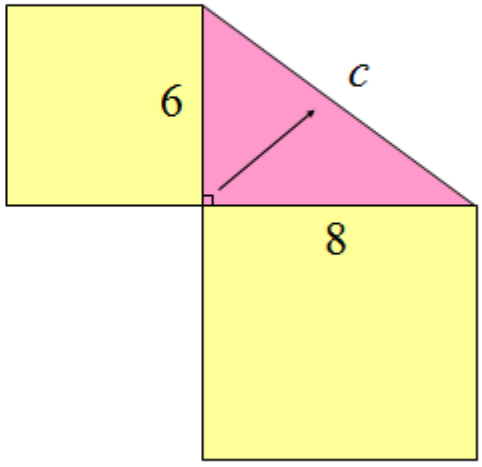
Which side is the hypotenuse?

The right angle points to the hypotenuse.

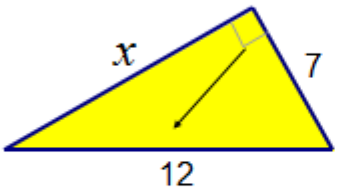
It's the side labelled "c".

Calculate side c.

When calculating the hypotenuse, we add the area of the squares of the other two sides.

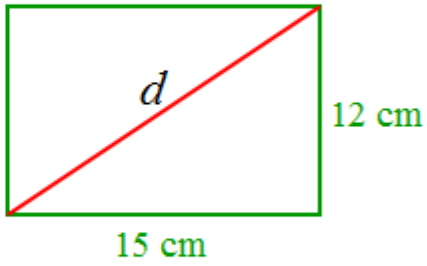


Calculate the length of side x.

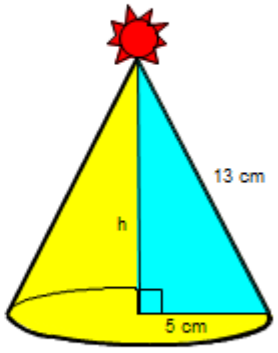


When calculating a side, we determine the *difference* of the area of the square of the hypotenuse and the area of the square of the known side.

The length and width of a rectangle are 12 cm and 15 cm. Calculate the length of the diagonal.



Tanya is making a party hat using a cone made out of paper. Determine the height of the cone.



Examples

p. 423-424, #1-10

1.3 Composite Figures

Unit 1: Measurement Relationships and Optimization

Introduction: Problem Solving Techniques

Understand the problem

_ Do you understand all the words used in stating the problem?
_ What are you asked to find or show?
_ Can you restate the problem in your own words?
_ Can you think of a picture or diagram that might help you understand the problem?
_ Is there enough information to enable you to a solution?

Devise a plan (What tools will you need?)

_ Guess and check
_ Make an orderly list
_ Eliminate possibilities
_ Use symmetry
_ Consider special cases
_ Use direct reasoning
_ Solve an equation
_ Look for a pattern
_ Draw a picture
_ Solve a simpler problem
_ Use a model
_ Work backwards
_ Use a formula
_ Be ingenious

Carry out the plan

Persist with the plan that you have chosen.
If it continues not to work discard it and choose another.

Look back

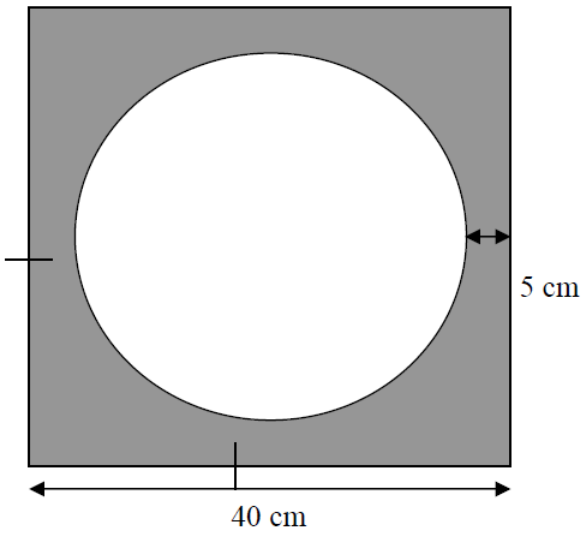
reflect and look back at what you have done, what worked, and what didn't.

Minds On: Collaboration Problem

Our soccer field has a bad case of weeds and needs new grass (sod).
a) How much will it cost to sod the field?
b) How many times around the track must the soccer team jog to reach 5 km?

On chart paper devise a plan to solve this problem.
Include all the tools required.

Problem 1



2. Use the diagram above

   a) What dimensions are needed to determine the area of the square?

   b) What dimensions are needed to determine the area of the circle?

   c) Calculate:

   Area of square

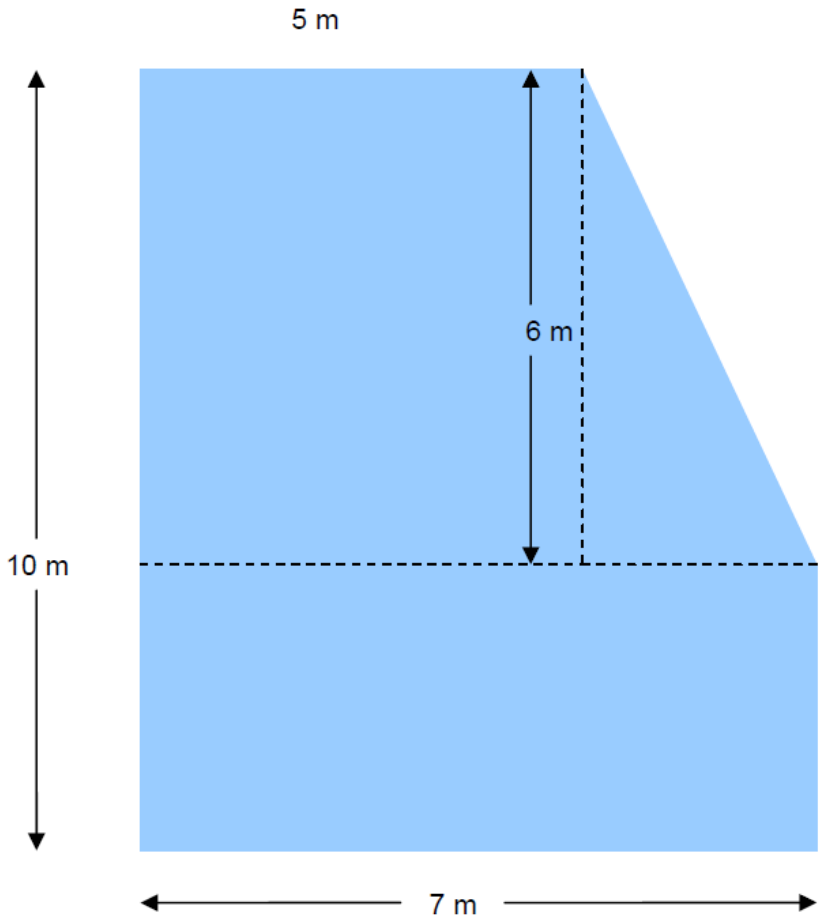
   Area of circle

   Area of shaded area

3. Provide an example in daily life of a figure that involves more than one geometric shape.
   Example: a church window

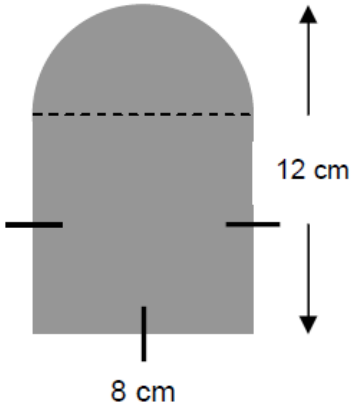
Problem 2

Carpeting costs $\$12.50/m^2$. How much would it cost to carpet the room below including GST and PST?

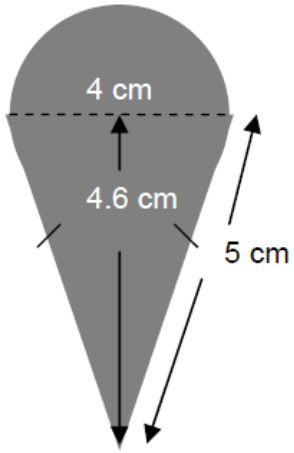


2. Calculate the area and perimeter of each figure.

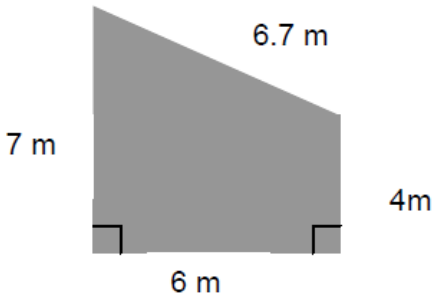
(a)



(b)

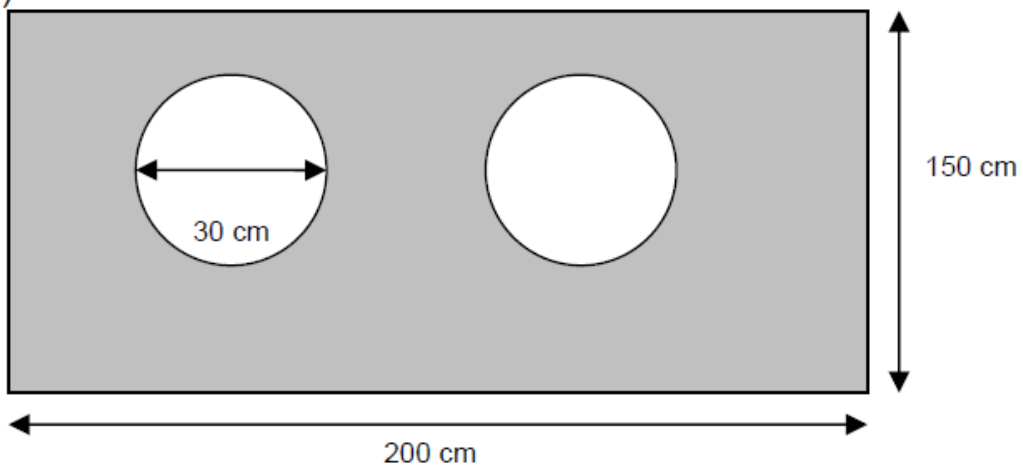


(c)

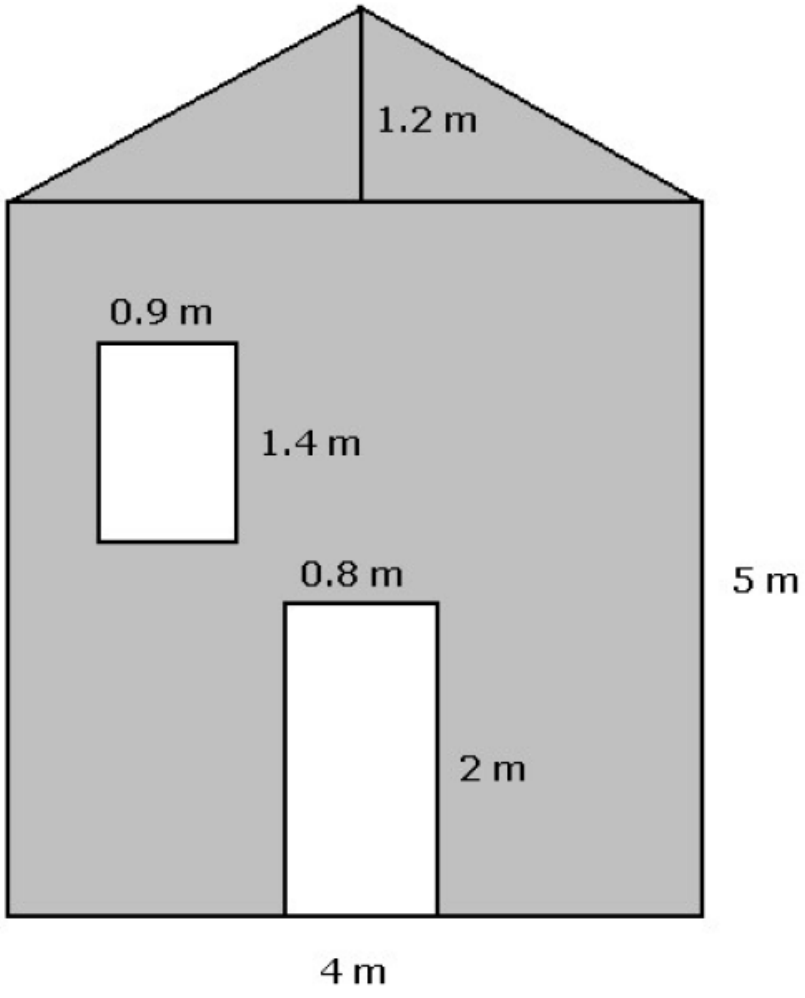


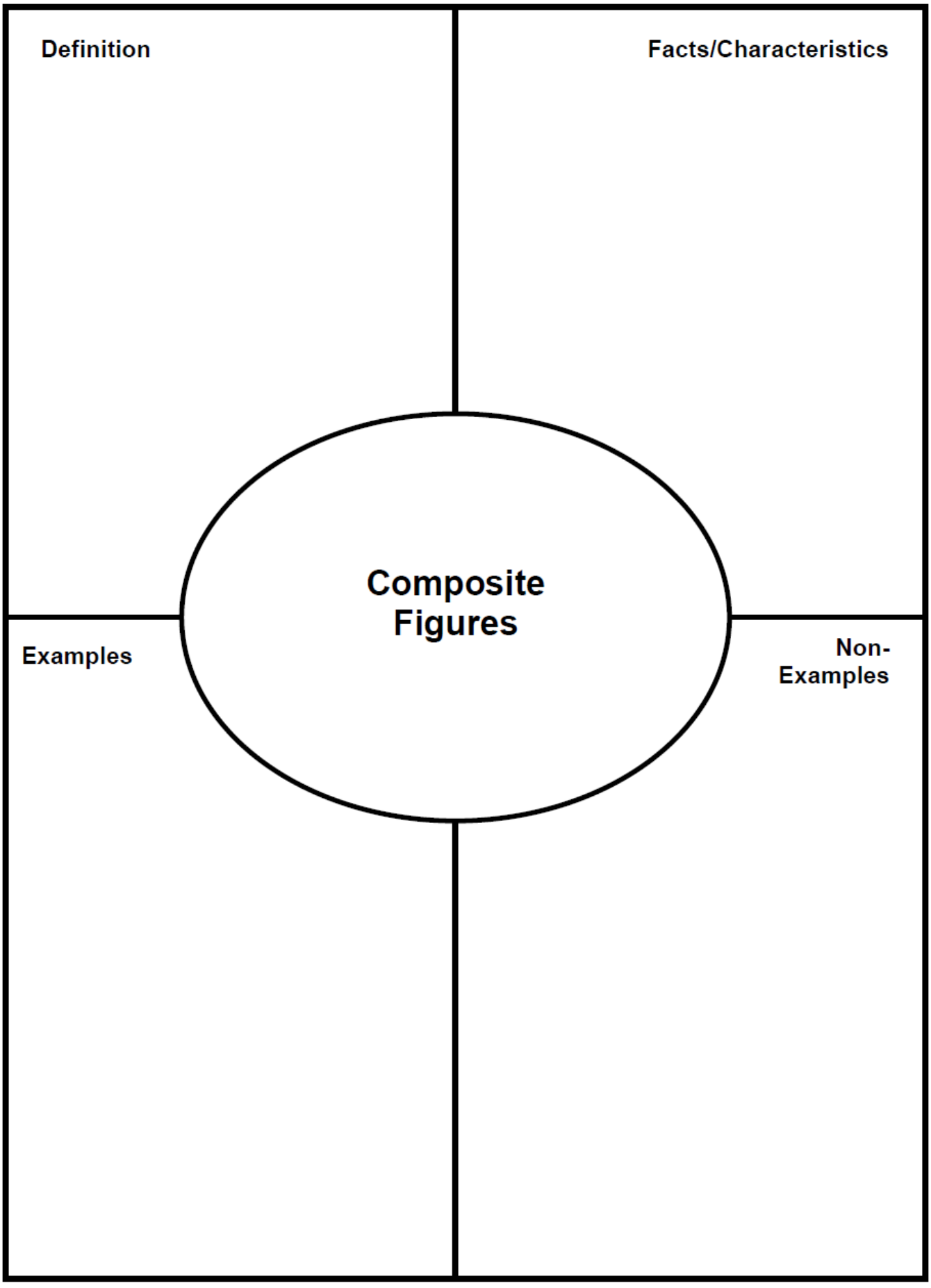
3. Find the area of the shaded regions only.

a)



b)




Definition
Facts/Characteristics
Composite Figures
Examples
Non-Examples

Station 1: Volume of A Rectangular Based Pyramid

Unit 1: Measurement Relationships and Optimization

Station 1

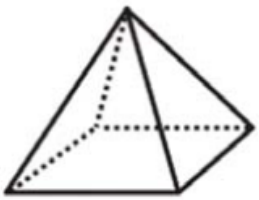
Review

The volume of a prism is _____

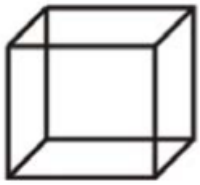
List any similarities between the two shapes:

Hypothesis

I think that…



× _____ =



Investigate

Using salt as volume, determine how many times the volume of the pyramid will fill the volume of the prism.

$V_{pyramid}$ x _____ = V_{prism}

$V_{pyramid}$ = V_{prism} ÷ _____

$V_{pyramid}$ = _____

$V_{pyramid}$ = _____

Station 2: Volume of A Triangular Based Pyramid

Unit 1: Measurement Relationships and Optimization

Station 2

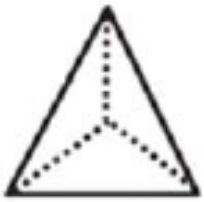
Review

The volume of a prism is _____

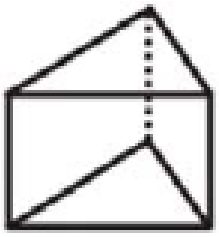
List any similarities between the two shapes:

Hypothesis

I think that…



× _____ =



Investigate

Using salt as volume, determine how many times the volume of the pyramid will fill the volume of the prism.

$V_{pyramid}$ x _____ = V_{prism}

$V_{pyramid}$ = V_{prism} ÷ _____

$V_{pyramid}$ = _____

$V_{pyramid}$ = _____

Station 3: Volume of A Cone

Station 3

Review

The volume of a cylinder is: _____

List any similarities between the two shapes:

Hypothesis

I think that…

× _____ =

Investigate

Using salt as volume, determine how many times the volume of the cone will fill the volume of the cylinder.

V_{cone} x _____ = $V_{cylinder}$

V_{cone} = $V_{cylinder}$ ÷ _____

V_{cone} = _____

V_{cone} = _____

Station 4: Volume of A Sphere

Station 4

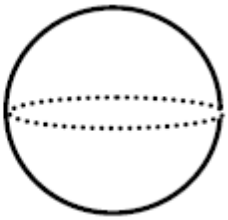
Review

The volume of a cone is _____(use results from station 3)

Compare the height of the cone to the radius of the sphere:

Hypothesis

I think that…

_____ x  = 

Investigate

Using salt as volume, determine how many times the volume of the cone will fill the volume of the sphere.

$Height_{cone}$ = _____Sphere (use this value in the steps below)

V_{cone} x _____ = V_{sphere}

V_{sphere} = ____ x _____

V_{sphere} =

V_{sphere} =

V_{sphere} =

Station 5: Volume of A Sphere II

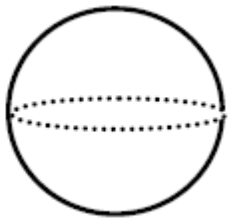
Station 4

Review

The volume of a cylinder is: _____

Hypothesis

I think that…

_____ x  = 

Investigate

Watch the video clip on the smartboard.

List all similarities between the cylinder and sphere.

$H_{cylinder}$ = _____ x r_{sphere} (use this value in the steps below)

V_{sphere} = ____ x $V_{cylinder}$

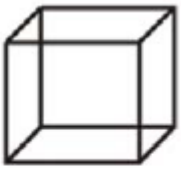
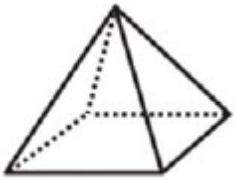
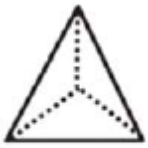
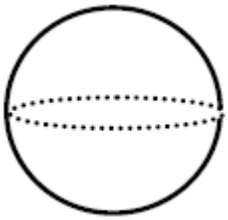
V_{sphere} = ____ x _____

V_{sphere} =

V_{sphere} =

V_{sphere} =

1.3: Volume Summary Sheet

Shape	Figure	Volume
		
		
		
		
		
		
		

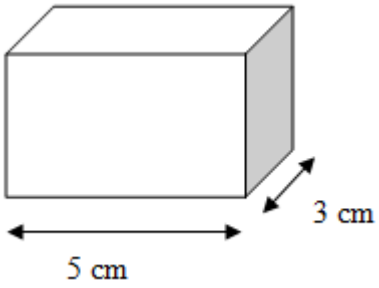
1.3: Volume Questions

Problems

1. Find the volume of Toblerone box. The height of the base is the same as the base side length.

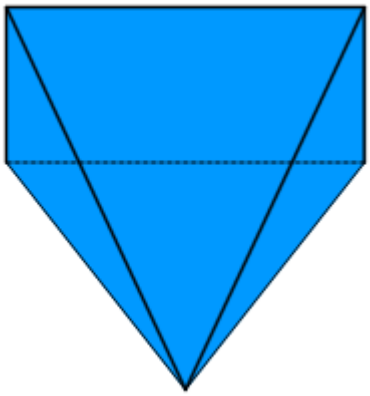
2. How many Evian bottles of water can a can of pringles hold? (Hint: 1 mL = 1 cm^3)

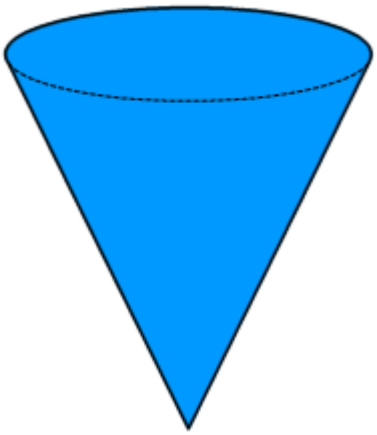
3. The volume of a box is 200 cm^3. Given its side lengths, what is the height?



4. How many tennis balls will it take to fill a soccer ball?

5. You are creating a new candy container and you would like to determine which one holds more. The containers and candy are shown by your teacher. Determine which container holds more and how many candies it will hold.





Assignment
8.3 #2,8,11
8.5 #1cd, 5, 8
8.7 #1c, 5, 7

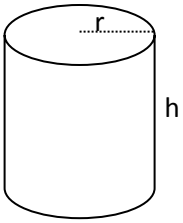
1.5: Surface Area

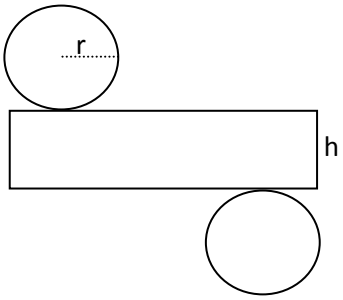
Unit 1: Measurement Relationships and Optimization

Surface Area:

Surface Area of A Cylinder

1. Develop a general formula for the surface area of a cylinder.

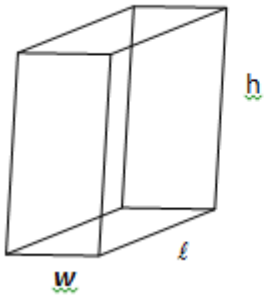


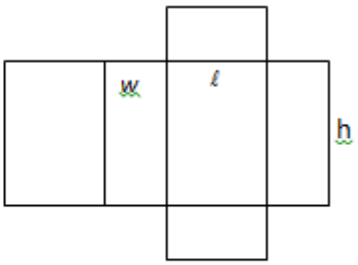


2. Record all required measurements from your net and determine the surface area of the **CYLINDER**.

Surface Area of A Rectangular-Based Prism

1. Develop a general formula for the surface area of a rectangular-based prism.

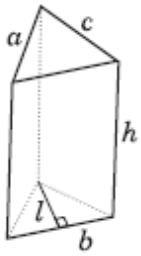


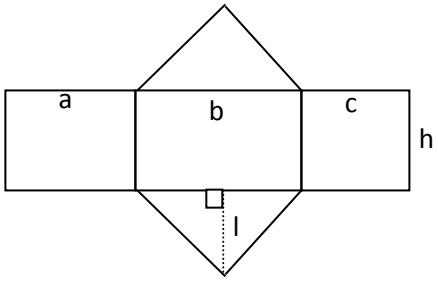


2. Record all required measurements from your net and determine the surface area of the **PRISM**.

Surface Area of A Triangular Based Prism

1. Develop a general formula for the surface area of a triangular-based prism.

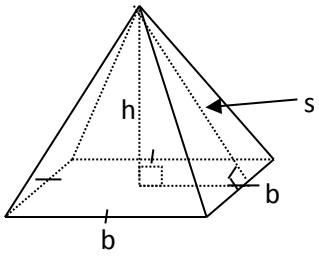


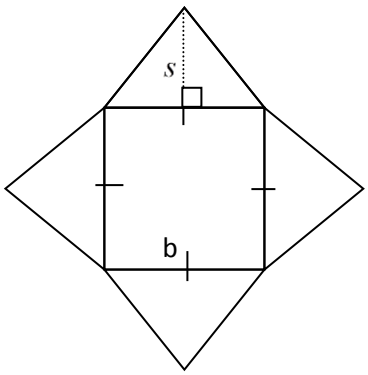


2. Record all required measurements from your net and determine the surface area of the **TRIANGULAR-BASED PRISM**.

Surface Area of A Square Based Pyramid

1. Develop a general formula for the surface area of a square-based pyramid.





h = height of the pyramid

b = length of one **side** of the base

s = slant height of the pyramid (height of each

2. Record all required measurements from your net and determine the surface area of the **PYRAMID**.

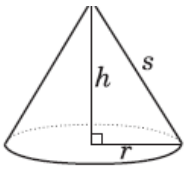
Surface Area of A Cone

CONE: **Surface Area = area of base + area of lateral surface**

S.A. = $\pi r^2 + \pi rs$

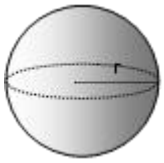
r = radius of base

(which is a circle)



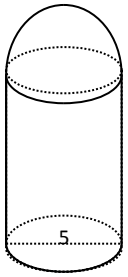
Surface Area of A Sphere

SPHERE: **Surface Area = $4\pi r^2$** , where ***r*** = radius of the sphere

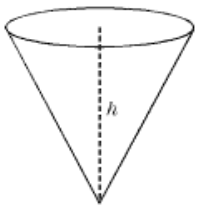


Examples

Ex. 1: Calculate the amount of plastic required to make the garbage can below, including the base.



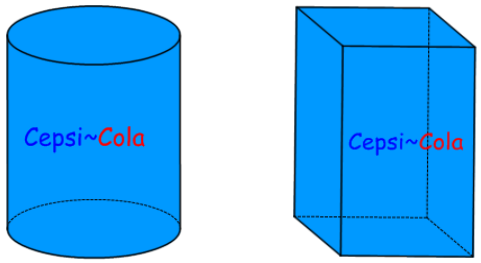
Ex. 2: Determine the amount of wafer required to make the ice-cream cone below if the diameter of its base is 4cm and its height is 3cm.



Ex. 3: ***Cereal Pi*** is sold in a box in the shape of a rectangular prism with dimensions 5cm x 4cm x 10cm. It is also sold in a larger size, in a box with dimensions double those of the smaller box. Compare the surface area and volume of the two boxes.

The Cepsi-Cola Can Problem

Cepsi-Cola is designing a new can to hold its product. The volume of the can must be 355 mL. The company is looking at two designs. Which can would be the better design?



1. If both cans of Cepsi-Cola share the same height of 12 cm and both must hold 355 mL of cola, what is the radius and side length of each can?

2. Which can is cheapest to make? Explain and justify your answer.

3. There are several ways to pack a case of 24 cans. Illustrate two ways to package 24 cans and determine which package uses the least materials.

pg.441 #1a,3b,11(finish)
pg.447 #2,3,4,6,9,10
pg.459 #3,4,7

1.6: Optimization I

Maximizing Area of Rectangles

MPM1D1: Grade 9 Academic Mathematics

Unit 1: Measurement Relationships and Optimization

Minds On: Think, Pair, Share

You have been given 20 sections of chain-link fence to reserve an area in a new park which will be used as a wading pool in the future. The only instruction from the construction foreman was to reserve the "biggest rectangular area possible."

Draw three possible configurations given the 20 sections of fence.

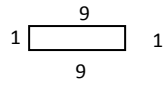
Calculate the area of each pool representation.

Which of the three has the largest area?

Is this the largest possible area that can be created using the fence? Explain.

Maximizing Area of Rectangles: 4-Sides

You have been given 20 sections of chain-link fence to reserve an area in a new park which will be used as a wading pool in the future. The only instruction from the construction foreman was to reserve the "biggest rectangular area possible."

Rectangle Label	**If the length of the pool is…**	**Diagram** (not drawn to scale)	**Then the width is…**	**And the area is… (units are sections^2)**
A	1 section		9 sections	$1 \times 9 = 9$
B	2 sections			
C	3 sections			
D	4 sections			
E	5 sections			
F	6 sections			
G	7 sections			
H	8 sections			
I	9 sections			

Conclusion: The maximum area of _____ sections^2 occurs when the area is _____ sections long and _____ sections wide.

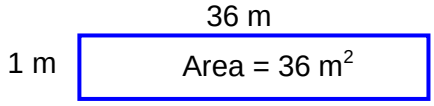
Therefore, a rectangle with a maximum area is a _____.

Minimizing Perimeter: 4-sides

Jaspreet and Dami are building a rectangular greenhouse. They want the area of the floor to be 36 m^2. Since the glass walls are expensive, they want to minimize the amount of glass wall they use. They have commissioned you to design a greenhouse which minimizes the cost of the glass walls.

Explore

It is possible to build a long, narrow greenhouse.



Perimeter = $2l + 2w$
= 2(36) + 2(1)
= 74 m

Sketch *three* more greenhouses that have a perimeter smaller than this greenhouse. Label the dimensions on the sketch and calculate the perimeter.

Model

Complete as much of the table as required to determine the dimensions that result in the least perimeter. You may not need to fill in the whole table.

Area, A, (m^2)	Width, w, (m)	Length, l, (m)	Perimeter (m) ($P = 2l + 2w$)
36	1	L = 36/1 =36	2(36) + 2(1) = 74
36	2	L = 36/2 =	2( ) + 2(2) =
36	4		
36	6		
36	8		
36	10		
36	15		
36	20		
36	36		

Summary

Maximizing Area	Minimizing Perimeter
4-Sided Rectangle The shape that maximizes the area of a four sided rectangle is	**4-Sided Rectangle** The shape that minimizes the perimeter of a four sided rectangle is
3-Sided Rectangle The shape that maximizes the area of a three sided bordered rectangle is	**3-Sided Rectangle** The shape that maximizes the perimeter of a three sided bordered rectangle is

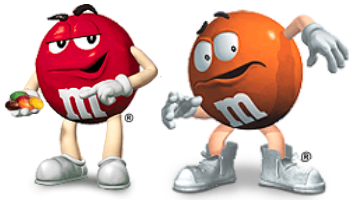
Homework

9.2 # 2 – 6, 8 , 12

Problem

The Cepsi~Cola Concert Series

Cepsi~Cola is holding a fundraiser concert to for the less fortunate in our area. The company was able to sign Eminem for an outdoor concert outside Cardinal Ambrozic C.S.S. To ensure he has a secure playing area, a rectangular fence is to be constructed around a field so that one side of the field is bounded by the wall of the school. Determine the maximum area that can be enclosed if the total length of fencing to be used is 500 m.



1.R Reflecting on My Learning (3, 2, 1)

3 Things I know well from this unit
2 Things I need explained more
1 Question I still have

1.RLS: Reflecting on Learning Skills

Students should be aware of the importance that these skills have on your performance. After receiving your marked assessment, answer the following questions. Be honest with yourself. Good Learning Skills will help you now, in other courses and in the future.

E – Always
G – Sometimes
S – Need Improvement
N – Never

Organization

E G S N I came prepared for class with all materials
E G S N My work is submitted on time
E G S N I keep my notebook organized.

Work Habits

E G S N I attempt all of my homework
E G S N I use my class time efficiently
E G S N I limit my talking to the math topic on hand
E G S N I am on time
E G S N If I am away, I ask someone what I missed,
E G S N I complete the work from the day that I missed.

Team Work

E G S N I am an active participant in pairs/group work
E G S N I co-operate with others within my group
E G S N I respect the opinions of others

Initiative

E G S N I participate in class discussion/lessons
E G S N When I have difficulty I seek extra help
E G S N After I resolve my difficulties, I reattempt the problem
E G S N I review the daily lesson/ideas/concepts

Works Independently

E G S N I attempt the work on my own
E G S N I try before seeking help
E G S N If I have difficulties I ask others but I stay on task
E G S N I am committed to tasks at hand

Yes No I know all the different ways available in my school, where I can seek extra help.

Yes No I tried my best.

What will I do differently in the next unit to improve?

_____
_____
_____
_____