Apprenticeship and Workplace Mathematics 10

Module 2 Blackline Masters

This blackline master package, which includes all section assignments, as well as selected worksheets, activities, and other materials for teachers to make their own overhead transparencies or photocopies, is designed to accompany Open School BC's ***AWM 10*** course. BC teachers, instructional designers, graphic artists, and multimedia experts developed the course and blackline masters.

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Module 2

Section 1—Lesson A: Estimating and Measuring Length and Distance

ESSENTIAL QUESTIONS	Before the Lesson: What I Know	After the Lesson: What I Learned	Examples
How can you estimate length and distance for common imperial and SI units?			
How can you estimate the dimensions of two-dimensional and three-dimensional objects?			
How can you determine the perimeter of two-dimensional objects?			

Module 2

Section 1—Lesson B: Measuring Diameters

ESSENTIAL QUESTIONS	Before the Lesson: What I Know	After the Lesson: What I Learned	Examples
What are the various parts of a circle?			
How can you measure the inside and outside diameter of a circular object?			

Module 2

Section 1—Lesson C: Locating Midpoints

ESSENTIAL QUESTIONS	Before the Lesson: What I Know	After the Lesson: What I Learned	Examples
How can you determine the midpoint of a linear measurement?			
How can you find the midpoint of a rectangle?			

Module 2

Section 1—Lesson D: Linear Problems

ESSENTIAL QUESTIONS	Before the Lesson: What I Know	After the Lesson: What I Learned	Examples
How do you solve perimeter, circumference, and size problems based on linear dimensions?			
How can you determine if your answers to linear measurement problems are reasonable?			

Section 1 Assignment Part 1: Estimation, Referents and Perimeters

Instructions:
Please show all your work. You may use your AWM 10 Data Pages. (**Total 16 marks**)

1. Choose a referent you could use to estimate, in SI units, the length of each of the items listed. Explain why you chose the referent, and indicate what SI units you used for your estimate.

   a. width of your calculator (2 marks)

   _____

   _____

   _____

   _____

   _____

   _____

   b. width of your driveway (2 marks)

   _____

   _____

   _____

   _____

   _____

   _____

2. Using referents, estimate the height, width, and length (in imperial units) of the greenhouse described in the Focus of Lesson A. Describe the referents you chose and explain how you arrived at your estimates. (2 marks)

_____

_____

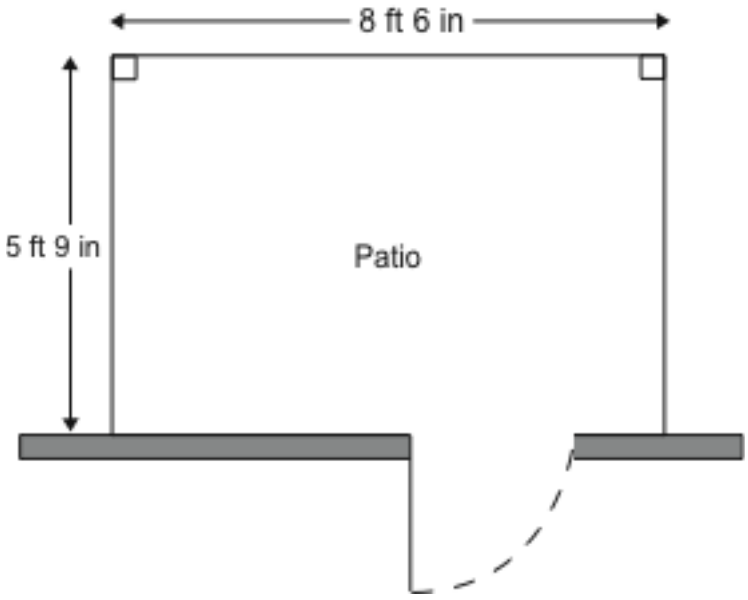
_____

_____

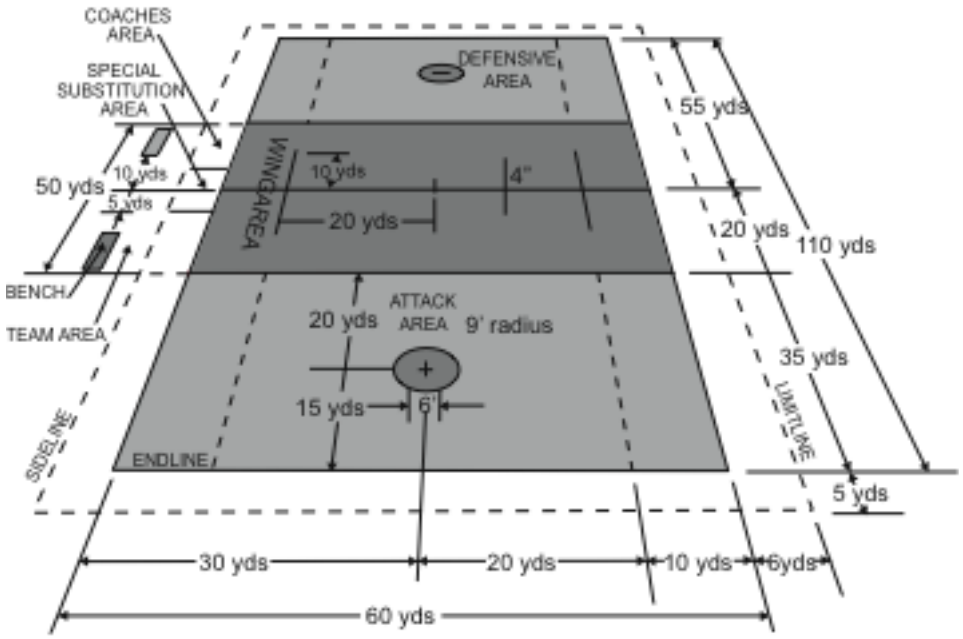
_____

_____

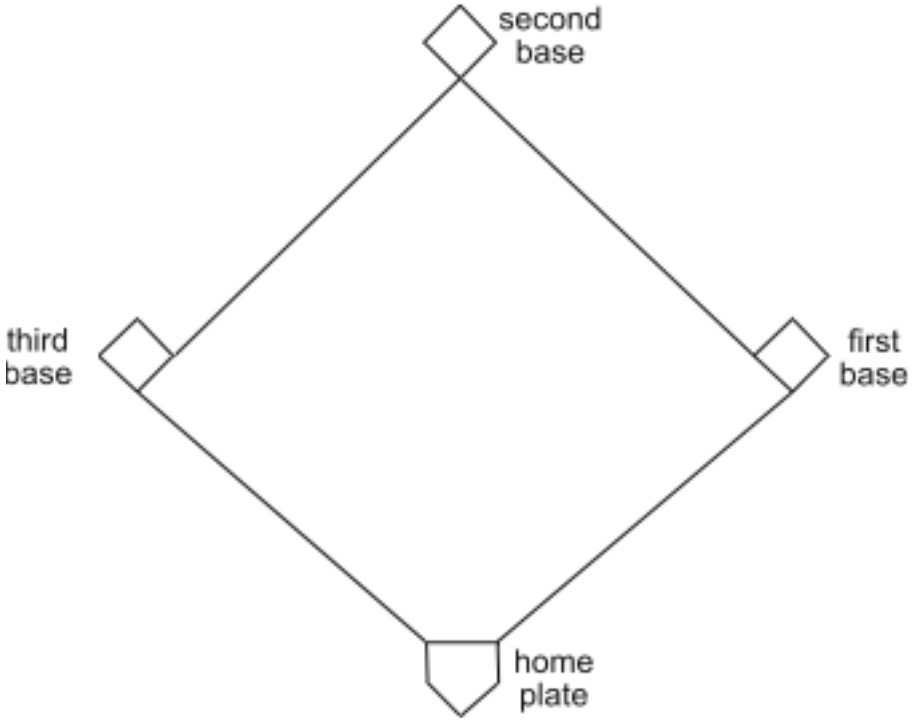
3. Dora has just bought a condominium on the 15th floor of a high-rise. Work on the condo is not quite complete. Workers are currently installing the railing on Dora's balcony. Look at the diagram. What is the total length of the railing on the three sides of the rectangular balcony? Express your answer in feet and inches. (2 marks)



4. The diagram shown illustrates the layout of a rectangular lacrosse field. What is the perimeter of the playing area (the shaded areas combined)? (2 marks)



5. A baseball diamond is actually a square with a perimeter of 120 yards. What is the distance in feet from home plate to first base? (3 marks)



6. Jason has 300 m of fencing that he is going to use to build a rectangular pen for his sheep. The plans show that the length of the pen will be 100 m. What is the width? (3 marks)

Section 1 Assignment Part 2: Measuring Circumference and Diameter

Instructions:
Please show all your work. You may use your AWM 10 Data Pages. (**Total 15 marks**)

1. Without using a calculator, explain how you can estimate the radius of a circle if you know the circumference of the circle. Include an example in your explanation. (2 marks)

_____

_____

_____

_____

_____

_____

2. A cylindrical can of soup has a diameter of 7.3 cm. What is the circumference of the lid, to the nearest tenth of a centimetre? (2 marks)

3. What is the circumference of a wheel with a radius of 30 cm? Round your answer to the nearest tenth of a centimetre. (2 marks)

4. What is the diameter of a wheel that travels 4 ft when it rotates once. Round your answer to the nearest inch. (3 marks)

5. Describe a situation where you might use a Vernier calliper. Explain why you would use this measurement tool in the situation you described. (2 marks)

_____

_____

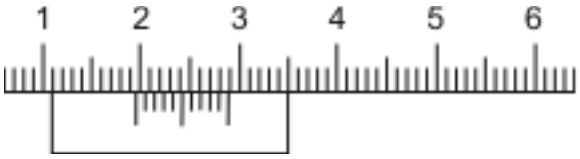
_____

_____

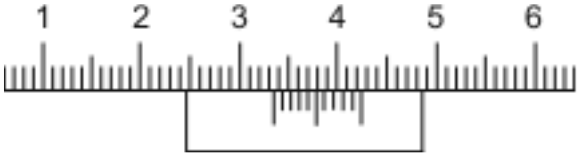
_____

_____

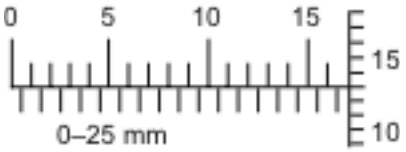
6. a. Read the following Vernier caliper measurement. The Vernier caliper is calibrated in metric units. (1 mark)



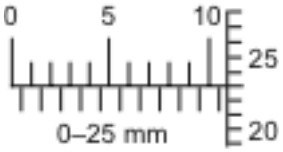
b. Read the following Vernier caliper measurement. The Vernier caliper is calibrated in metric units. (1 mark)



7. a. Read the following micrometer measurement. The micrometer is calibrated in metric units. (1 mark)



b. Read the following micrometer measurement. The micrometer is calibrated in metric units. (1 mark)



Section 1 Assignment Part 3: Midpoints

Instructions:
Please show all your work. You may use your AWM 10 Data Pages. (**Total 16 marks**)

1. Describe one method you could use to determine the midpoint of the surface of a book without using a ruler or other measuring device. (2 marks)

   _____

   _____

   _____

   _____

   _____

   _____

2. Jeff wants to drill a hole along the centre line of a board with a width of $2\frac{5}{8}$ in.

   Where should he drill? (2 marks)

3. a. Look at the division statement below.

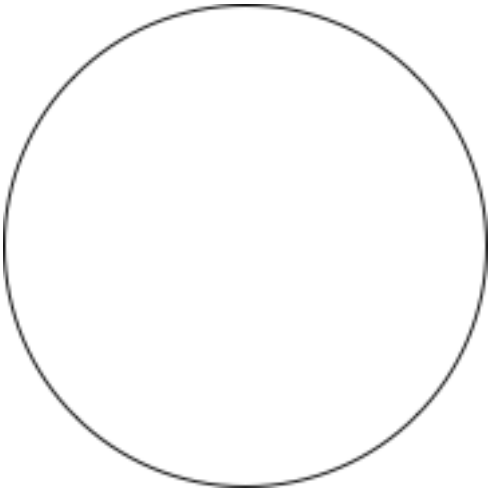
$$26\frac{5}{8} \div 1\frac{1}{4}$$

Describe a problem that could be solved using this division statement. (2 marks)

b. Solve the problem you created in (a). (2 marks)

4. Where would you cut a board that measures 3 ft 2 ½ in to divide it into two equal pieces? (3 marks)

5. Use a set square from your geometry set to locate the centre of this circle. Describe the steps you took. (3 marks)



_____

_____

_____

_____

_____

6. Lasha needs to mark the centre of a piece of wood with parallel, opposite sides. The piece of wood has the following shape.

With the help of the diagram, explain how Lasha should proceed. (2 marks)

_____

_____

_____

_____

_____

Section 1 Assignment Part 4: Solving Linear Measurement Problems

Instructions:
Please show all your work. You may use your AWM 10 Data Pages. (**Total 13 marks**)

1. The photo below shows two people hanging a framed picture. By looking at this photo, how could you estimate the perimeter of the frame? (2 marks)

Photo by Losevsky Pavel © 2010

2. A Canadian courier company has a limit on the size of parcels they ship at their economy rate. The maximum size is 210 in. They use the following formula for size:

   size = length + height + width

   A parcel that is to be shipped at the economy rate has a width of 40 in and a length of 50 in. What is the maximum height of the parcel? (2 marks)

3. A number of softwood two-by-four boards are to be placed in a rectangular stack.

Photo by Vladislav Gurfinkel © 2010

A softwood two-by-four board is actually 1 ½ in by 3 ½ in. (The smaller dimensions are due to the planing and shrinkage of roughly cut 2 in by 4 in boards that takes place at sawmills.)

The rectangular stack of two-by-four boards is to be 21 inches wide and 12 inches high.

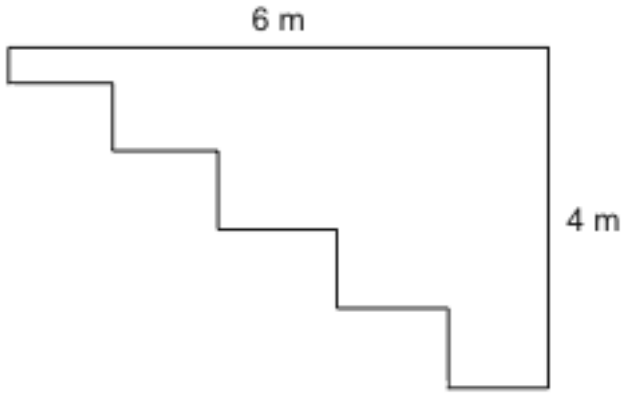
Calculate how many two-by-four boards would be in this stack. **Hint**: the boards are laid flat with the 3 ½ inch side down. (3 marks)

4. On a basketball court, the *key* is a rectangle shape that measures 19 feet in length and 12 feet in width. The key is completed by a semicircle towards midcourt.

   a. Estimate the outside perimeter of the key. (2 marks)

   b. Calculate the perimeter of the key described in (a). Round your answer one decimal place. Is your answer reasonable? (2 marks)

5. Is it possible to find the perimeter of this figure with only the information provided in the diagram? If not, explain why it isn't possible. If it is possible, explain why and find the perimeter. Note: all angles are right angles. (2 marks)



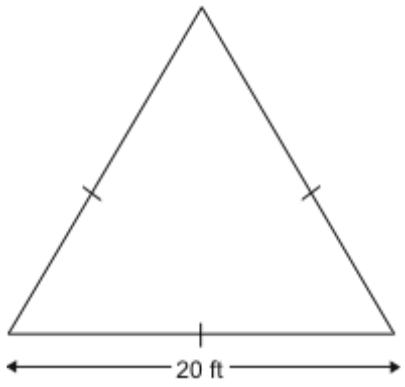
Section 1 Assignment Part 5: Multiple Choice Section Review

Instructions:
You will need a ruler for this part of your assignment. Please complete the first five questions without a calculator. You may use your AWM 10 Data Pages. Each question is worth 1 mark. (**Total 15 marks**)

1. A ribbon is 3 feet 6 inches long. It needs to be cut into pieces that are 7 inches in length. How many full length pieces will the ribbon provide?

   a. 5
   b. 6
   c. 7
   d. 8

2. Flowers are to be planted six inches apart along the perimeter of the garden represented below. Estimate the number of flowers needed.

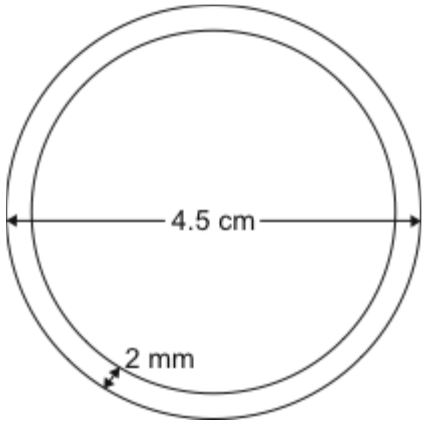


   a. 10
   b. 60
   c. 120
   d. 720

3. A man is trying to estimate the perimeter of a rectangular of a room in his house. He walks along two of the walls, taking long strides, and notes that the dimensions of the room are about 5 strides by 6 ½ strides. What is the most reasonable estimate of the perimeter of the room?

   a. 11 ½ ft
   b. 11.5 m
   c. 22 ft
   d. 22 m

4. Which expression represents the inner circumference of the pipe shown in the diagram?



   a. π(4.5 – 0.2)
   b. π(4.5 – 2)
   c. π(4.5 – 0.4)
   d. π(4.5 – 4)

5. Juanita is installing baseboards on all the walls of a rectangular-shaped room. The room measures 15’3” long and 19’6” wide. The room has two 26” openings that do not require baseboards. Which calculation could be used to find the total length of the baseboards in feet?

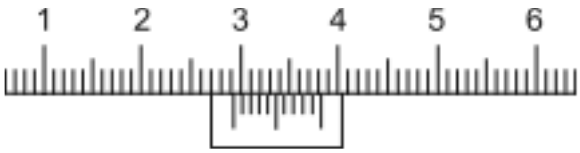
   a. [15(12) + 3] + [18(12) + 6] – 2(26)
   b. $\frac{2[(15\times12+3)+(19\times12+6)]-2(26)}{12}$
   c. $\frac{(15.25+19.5)2}{12}$
   d. 2[31 + 12(15) + 3 + 18(12) + 6]

You may use a calculator for the remaining questions if you need one.

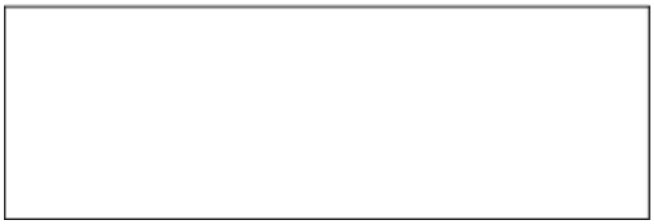
6. As an estimation strategy, what could be used to approximate one yard?

   a. the length of your foot
   b. the distance from your shoulder to your fingertips
   c. the length of your hand and forearm
   d. the width of your shoulders

7. The Vernier Calliper shown below is calibrated in SI units. What is the measurement on the calliper?



   a. 2.70
   b. 2.92
   c. 3.13
   d. 3.80

8. 

   Use a ruler to find the midpoint of the shape above. The midpoint of the shape is located:

   a. 1.4 cm from the top.
   b. 2.8 cm from the left side.
   c. 2.8 cm from the top.
   d. 4.3 cm from the left side.

9. The maximum size (length + width + height) allowed per fare-paying customer for baggage on an aircraft is 157 cm. Which of the following pieces of luggage would be over the size allowance?

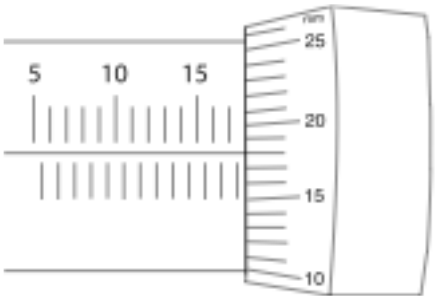
a.

b.

c.

d.

10. What measurement is shown on the micrometer?



a. 0.18 mm
b. 17.50 mm
c. 17.68 mm
d. 18.18 mm

11. Which of the following shows the correct relationship between the parts of a circle?

a. $\pi = \frac{C}{2r}$

b. $r = \frac{2\pi}{C}$

c. $d = \frac{\pi}{C}$

d. $r = 2d$

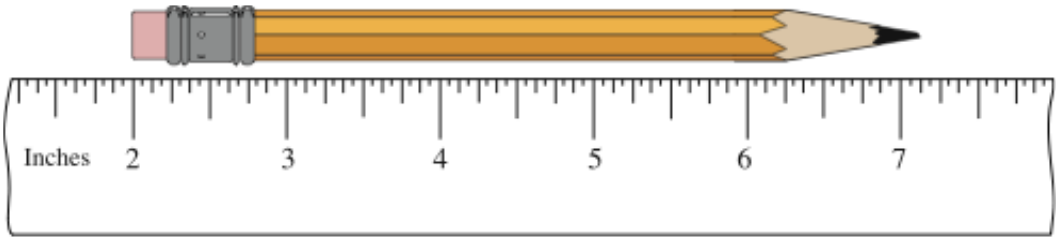
12. What tool would you use to measure the diameter of a piece of electrical wire to the nearest hundredth of a millimetre?

a. measuring tape
b. micrometer
c. ruler
d. Vernier calliper

13. The perimeter of a square is 5 feet long. What is the length in inches of one side?

a. 1 ¼
b. 5
c. 15
d. 30

14. Using the ruler below, determine the length of the pencil.



a. $5\frac{1}{8}$ “

b. 5.2”

c. $5\frac{1}{4}$ “

d. $7\frac{1}{8}$ “

15. A two-by-four board is 2 ft 7½ in long. Where should this board be marked in order to cut it into two shorter two-by-four boards of equal lengths?

A student answered the above problem as follows:

I	$\left[2(12)+7+\frac{1}{2}\right] \div 2 = \left[24+7+\frac{1}{2}\right] \div 2$
II	$= \left[31\frac{1}{2}\right] \div 2$
III	$= \frac{63}{2} \times \frac{1}{2}$
IV	$= \frac{63}{4}$
V	$= 15\frac{3}{4}$ You should mark the board at the point 15 ¾ in from each end.

a. I
b. III
c. IV
d. None. The student did not make a mistake.

Module 2

Section 2—Lesson A: Estimating Area

ESSENTIAL QUESTIONS	Before the Lesson: What I Know	After the Lesson: What I Learned	Examples
How are referents used to estimate area measurements using SI and imperial units?			
In what situations are SI and/or imperial units for measurement used?			
How can the area of a regular or irregular shape be estimated using a grid?			

Module 2

Section 2—Lesson B: Area Formulas 1

ESSENTIAL QUESTIONS	Before the Lesson: What I Know	After the Lesson: What I Learned	Examples
How are the areas of parallelograms and triangles calculated?			
How can you find the areas of composite shapes involving rectangles, squares, parallelograms, and triangles?			

Module 2

Section 2—Lesson C: Area Formulas 2

ESSENTIAL QUESTIONS	Before the Lesson: What I Know	After the Lesson: What I Learned	Examples
How are the areas of circles calculated?			
How can you find the areas of composite shapes involving circles?			

Module 2

Section 2—Lesson D: Surface Area—Prisms and Pyramids

ESSENTIAL QUESTIONS	Before the Lesson: What I Know	After the Lesson: What I Learned	Examples
How are nets used to find the surface area of 3-D objects?			
How are formulas for the surface area of 3-D objects developed through examining nets?			

Module 2

Section 2—Lesson E: Surface Area—Cylinders and Cones

ESSENTIAL QUESTIONS	Before the Lesson: What I Know	After the Lesson: What I Learned	Examples
How can you determine the surface areas of cones and cylinders?			
What are some everyday applications of surface area of these shapes?			

Section 2 Assignment Part 1: Estimating Areas

Instructions:

In this activity, you'll measure a variety of common objects. If you don't have a certain object that is listed in the table, see if you can find a similar object to measure. For example, if you don't have a card-table, measure your kitchen table or your coffee table. Make sure you cross out the name of the object in the table and write in the name of the object that you measured.

To complete this activity, you'll need a tape measure with both imperial and SI units.
(8 marks)

Step 1: Estimate the area of each object in the table in both SI (metric) and imperial units. Record your estimates in the table.

Remember, if you estimate the dimensions of a rectangular book cover in centimetres, then its area is in square centimetres. You can find it using the formula:

Area = length × width

For example, you might estimate the dimensions of the book cover to be 20 cm by 25 cm. Therefore your estimated area is:

Area = length × width
= 20 cm × 25 cm
= 500 cm^2

Step 2: Use a measuring tape or ruler to measure the actual dimensions and calculate the actual areas in both SI and imperial units. Record the actual areas.

Step 3: In the comment column, indicate how accurate your estimates were. If an estimate was too large or too small, what could you have done to get a more accurate estimate?

(Completing the table below is worth 4 marks.)

Area to Estimate	SI Estimate	Imperial Estimate	Actual SI Area	Actual Imperial Area	Comments
Postage Stamp					
Card-Table Top					
Floor Tile					
Living Room					
Cheese Slice					
Desk Top					
Thumb Print					
Slice of Bread					
Door					
Sheet of Paper					
Stove Top					

Questions

1. Many of the objects in the table would make useful referents. Which do you think you might use to estimate the areas of other objects? Explain your answer. (2 marks)

2. Explain how you would use one of the objects in the table to estimate the area of the cover of a book. (2 marks)

You have now finished Part 1 of your Section 2 Assignment. Please return to and complete Lesson A.

Section 2 Assignment Part 2: Referents and Estimation

Instructions:

Please show all your work. You may use your AWM 10 Data Pages. (15 marks)

1. Name a referent you might use to estimate in imperial units the area of each of the following. In each case, identify the units for your estimate and explain why you chose the referent.

   a. The area of the face of your calculator. (2 marks)

_____

_____

_____

_____

_____

_____

   b. The area of a driveway. (2 marks)

_____

_____

_____

_____

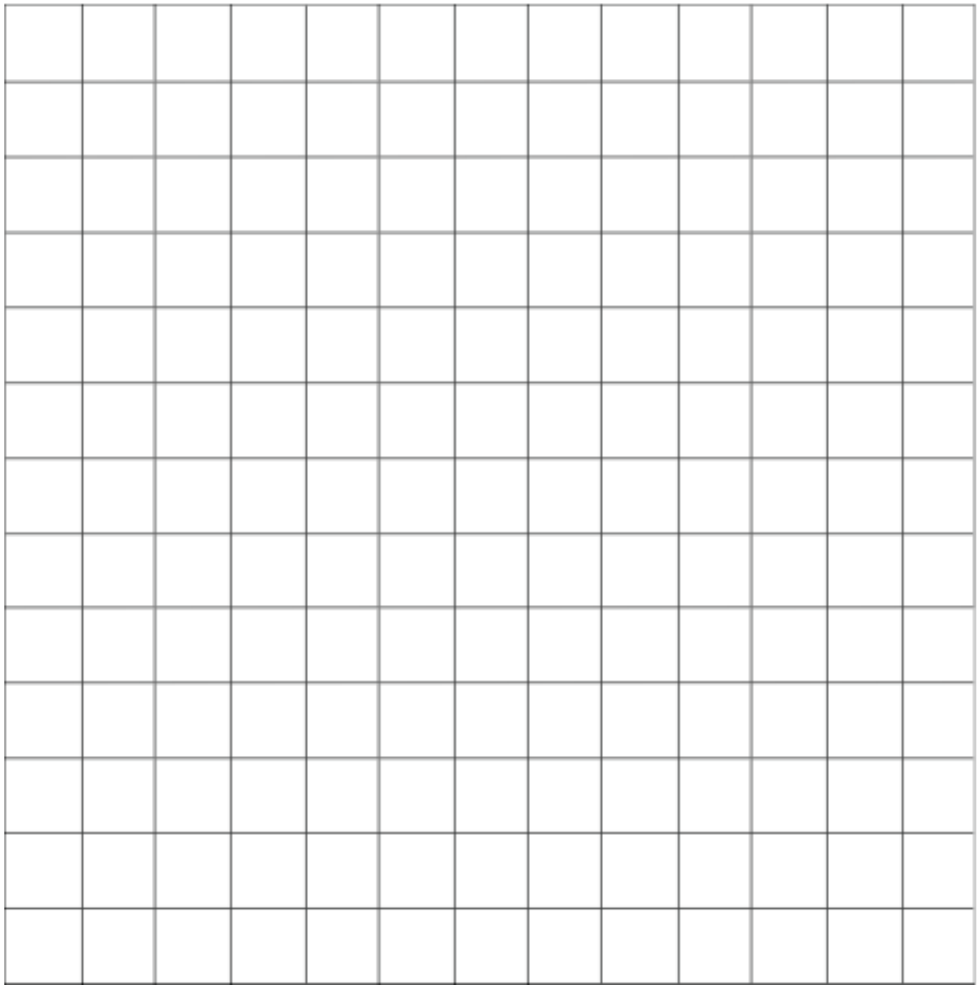
_____

_____

2. A rectangular kitchen table is 37 in wide and 58 in long.
   a. Estimate the area of the table-top in square feet. (3 marks)

   b. Determine the area to the nearest tenth of a square foot. Is your answer reasonable? (3 marks)

2. Use the grid provided to answer this question.



Draw or trace an irregular-shaped object on the grid. Estimate the area (in units^2) covered by your object. Show any calculations you perform and give a brief explanation of your method. (5 marks)

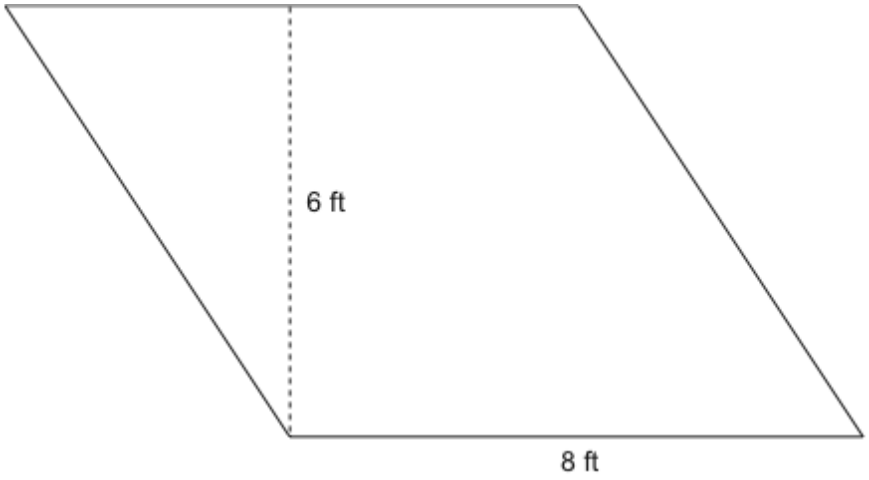
Section 2 Assignment Part 3: Areas of Shapes with Straight Edges

Instructions:

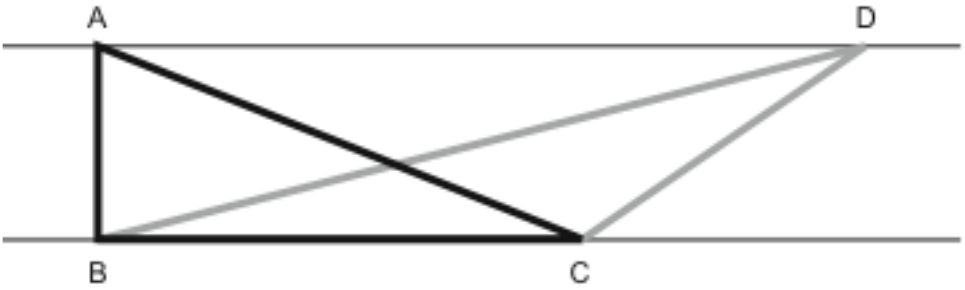
Please show all your work. You may use your AWM 10 Data Pages. (16 marks)

1. A triangular yield sign is approximately 24 in high and 27 ¾ in wide. What is its area correct to the nearest square inch? (2 marks)

2. What is the area of the parallelogram in the following diagram? (2 marks)

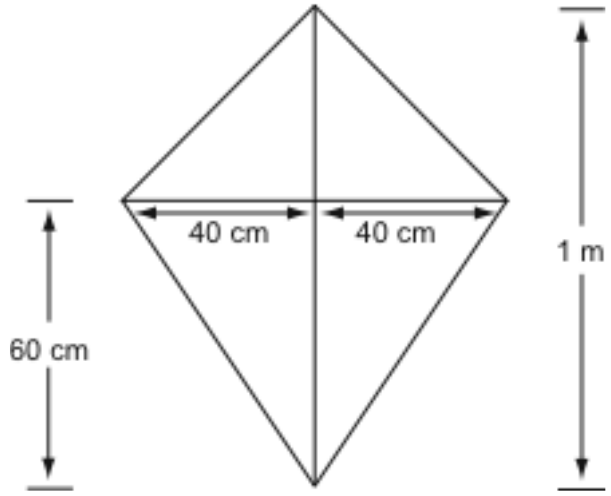


3.



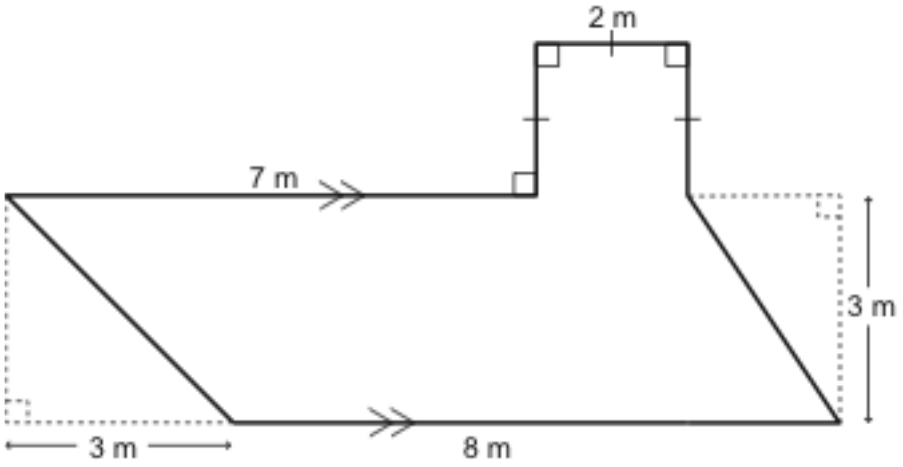
The black triangle (ABC) and the grey triangle (BCD) both share a common base shown in black (BC). Both triangles lie between parallel lines as shown. How do the areas of the two triangles compare? Explain your answer. (2 marks)

4. The outline of a kite is shown below. What is the area of the kite?



What is the area of the kite in square metres? (4 marks)

5. A composite figure is shown below. To find the area of a composite shape, divide the shape into smaller, simple shapes.



a. What is the area of the composite shape? Draw a diagram to show the divisions you created and then show the steps and formulas that you used. (3 marks)

b. There are many ways you could have divided up the composite shape. No matter how you divide it, you should get the same area. Repeat (a) using a *different* set of divisions of the original shape. (3 marks)

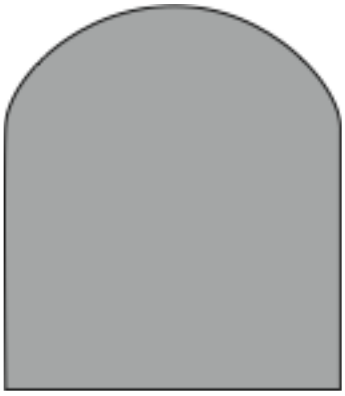
Section 2 Assignment Part 4: Imperial Units of Volume and Capacity

Instructions:

Please show all your work. You may use your AWM 10 Data Pages. (18 marks)

1. The diameter of a hula-hoop is 1 ft 6 in. What is the area enclosed by the hoop? Round your answer to the nearest square inch. (2 marks)

2. A decorative window is in the shape of a square with a semicircle on top. If a side of the square is 60 cm, what is the area of the window? Round to nearest square centimetre.
   (4 marks)



3. A hat brim is cut with the following dimensions.

    - The inside diameter is 7 in.
    - The outside diameter is 14 in.

    What is the area of the top of the brim? Round your answer up to the nearest square inch. (4 marks)

4. Design a composite figure that includes at least three different shapes (including one circle). Draw the composite figure on the grid provided and label it with relevant dimensions. Then find the area of the shape in square units. (Show all your steps, formulas, and calculations.) (8 marks)

The following is a break-down of how you will be marked.

Diagram:	
composite figure contains at least three shapes including at least one circle	1 mark
relevant dimensions of figure are labelled	1 mark
Area Calculations:	
steps are clearly indicated	2 marks
correct formulas are used	2 marks
calculations are correct	2 marks
Total:	8 marks

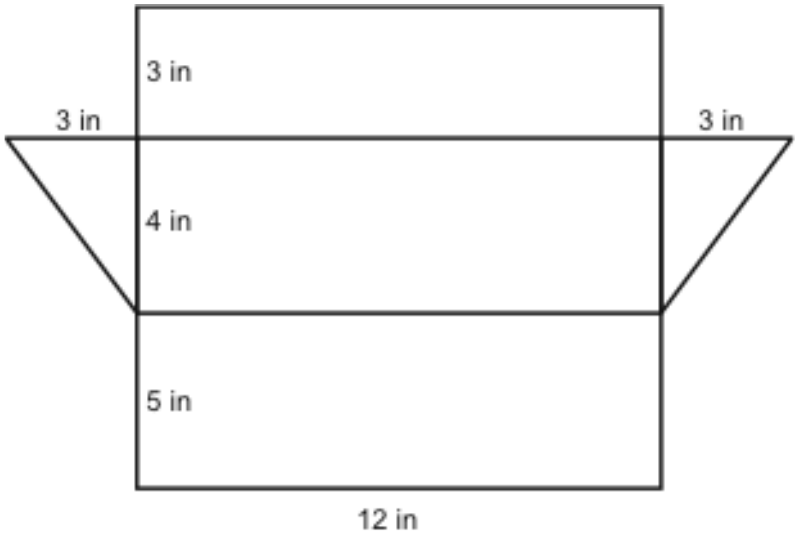
Section 2 Assignment Part 5: Surface Area of Prisms and Pyramids

Instructions:

Please show all your work. You may use your AWM 10 Data Pages. (17 marks)

1. A rectangular-prism-shaped crate is 4 ft long, 2 ft 6 in wide, and 1 ft 3 in high. What is its surface area in square feet? Round your answer to two decimal places. (3 marks)

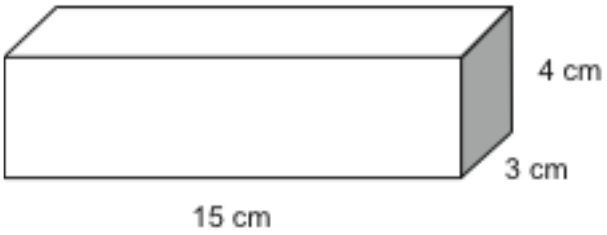
2. The following is a net for a 3-D object.



a. Name the 3-D object that can be formed from this net, and sketch the 3-D object. Please label the object's dimensions on your diagram. (2 marks)

b. Determine the surface area of the shape. (3 marks)

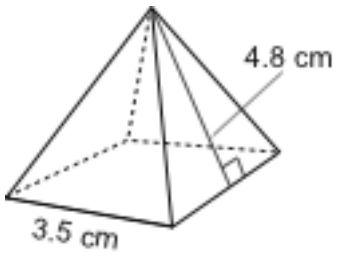
3. The following is a rectangular prism.



Sketch the net of the rectangular prism. On the net, label the dimensions.
(2 marks)

4. A small box in the shape of a cube has a surface area of 600 cm^2. How long is each side of the box? (Hint: all the side-lengths of a cube are the same.)
(3 marks)

5. A shape is shown below.



a. Name the shape shown above and draw its net. Include the shape's dimensions in your drawing. (2 marks)

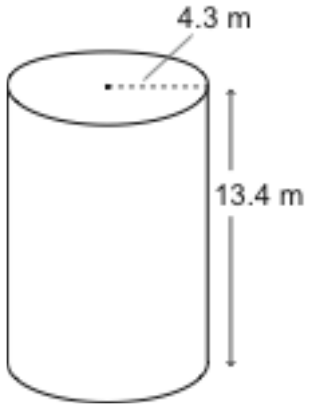
b. Find the surface area of the shape shown above. (2 marks)

Section 2 Assignment Part 6: Surface Area of Cylinders and Cones

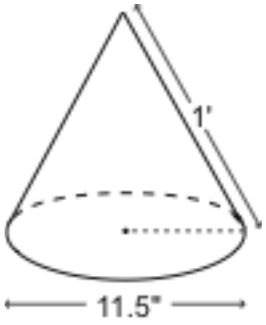
Instructions:

Please show all your work. You may use your AWM 10 Data Pages. (17 marks)

1. Find the surface area of the cylinder pictured below. Round your answer to one decimal place. (2 marks)



2. Find the surface area of the cone pictured below. Round your answer to one decimal place. (3 marks)



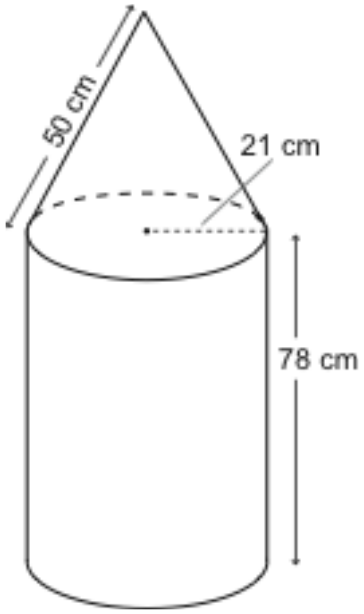
3. The picture below shows several teepees. Find the area of the canvas covering for one of the them. In your answer, please list the information you need, and explain how you would find the area of the canvas. (2 marks)

Photo by Philip Lange © 2010

4. A 1000 gallon cylindrical tank has a diameter of 4 ft 8 in and is 11 ft 5 in long. Estimate its surface area to the nearest square foot. (3 marks)

5. A conical pile of barley is in a field. The diameter of the pile is 25 ft. The slant height is 14 ft. What is the surface area of the pile exposed to the air? Round your answer to the nearest square foot. (3 marks)

6. A student was asked to find the surface area of the shape below. Look at the shape, and the student's solution. Then, answer (a) and (b).



$SA_{shape} = SA_{cone} + SA_{cylinder}$

$= (\pi r^2 + \pi rs) + (2\pi r^2 + 2\pi rh)$

$= \pi(21\text{ cm})^2 + \pi(21\text{ cm})(50\text{ cm}) + 2\pi(21\text{ cm})^2 + 2\pi(21\text{ cm})(78\text{ cm})$

$= 17\,746.9\text{ cm}^2$

$= 17.7\text{ m}^2$

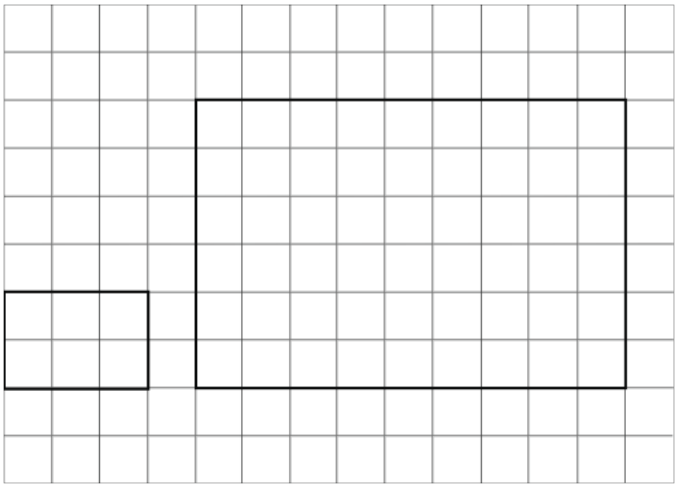
a. The student made a mistake in his solution. Explain the student's error.
(2 marks)

b. Calculate the correct surface area of the shape. (2 marks)

Section 2 Assignment Part 7: Perimeter, Area and Scale Factors

Instructions: Please show all your work. You may use your AWM 10 Data Pages. (17 marks)

1. The two rectangles on the grid are similar in shape.



a. What is the scale factor? Explain your answer. (2 marks)

_____

_____

_____

_____

_____

_____

b. How many times longer is the perimeter of the larger rectangle than the smaller rectangle? Justify your answer. (2 marks)

_____

_____

_____

_____

_____

c. How many times greater is the area of the larger rectangle than the area of the smaller rectangle? Justify your answer. (2 marks)

_____

_____

_____

_____

_____

2. Two rectangular photographs are similar in shape but different in size. The perimeter of the larger photograph is 5 times the perimeter of the smaller photograph. If the area of the smaller photograph is 23 cm^2, what is the area of the larger photograph? (2 marks)

3. One square has 100 times the area of a second square. If the perimeter of the smaller square is 37.2 cm, what is the perimeter of the larger square? (3 marks)

4. Draw a rectangle. Then, draw a second rectangle that is twice the area of the first by just changing one dimension. (2 marks)

5. Raveena is designing a rectangular deck that will be the same shape but ½ the area of her neighbour's deck. If her neighbour's deck is 20 ft long, how long will Raveena's deck be? Round your answer to the nearest foot. (3 marks)

6. The length of a certain rectangle is increased by a factor of six and its width by a factor of four. The area of the original rectangle is 8 ft^2.

   a. How many times larger than the original is the area of the new rectangle? (1 mark)

   b. What is the area of the new rectangle? (1 mark)

   c. What can you say about the perimeters of these two rectangles? (1 mark)

Section 1 Assignment Part 8: Multiple Choice Section Review

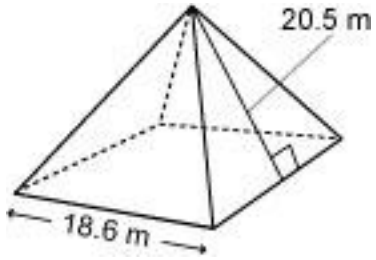
Instructions:

Please complete the first five questions without a calculator. You may use your AWM 10 Data Pages. Each question is worth 1 mark. (15 marks)

1. A small shed is 9 ft wide and 13 ft long. The owner wants to enlarge this space. What changes should he make to exactly double the area of the shed?
   a. double the width
   b. double both the length and the width
   c. extend both the length and the width by 1 foot
   d. extend both the length and the width by 2 feet

2. A rectangular desk is 76 cm wide and 1.1 m long. Choose the best estimate for the area of the table-top.
   a. 8.0 m^2
   b. 80 m^2
   c. 80 cm^2
   d. 8000 cm^2

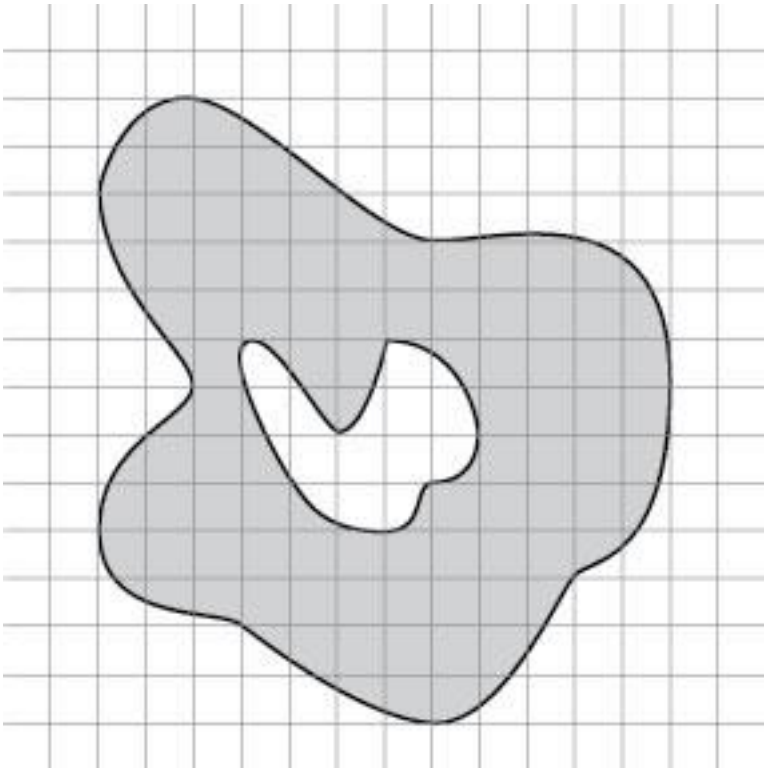
3. Estimate the surface area of the square-based pyramid in the diagram below.



   a. 120 m^2
   b. 840 m^2
   c. 1200 m^2
   d. 2000 m^2

4. As an estimation strategy, what could be used to approximate one square inch?
   a. the palm of your hand
   b. a thumbprint
   c. a footprint
   d. your ear

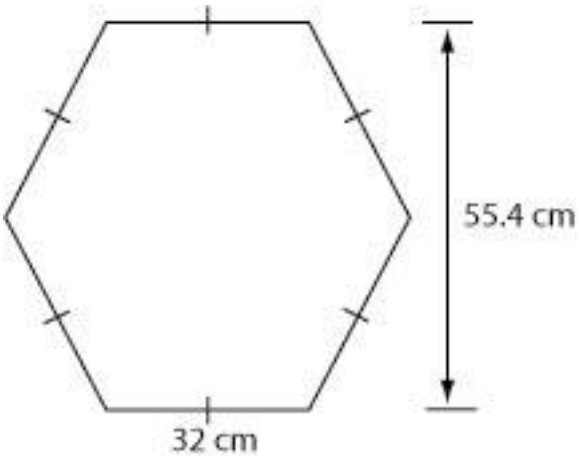
5. Each square on the grid below represents one square metre. What is the approximate area of the shaded region?



   a. 30–35 m^2
   b. 65–70 m^2
   c. 90–95 m^2
   d. 115–120 m^2

You may use a calculator for the remaining questions if you need one.

6. A patio table is in the shape of a regular hexagon as drawn below. Calculate the area of the table.



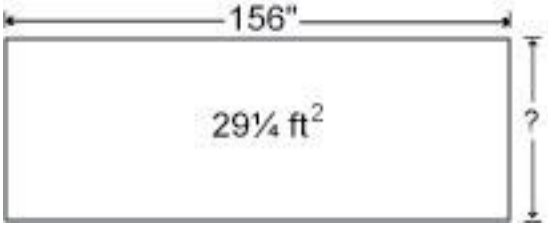
a. 1772.8 cm^2

b. 2048.0 cm^2

c. 2659.2 cm^2

d. 5318.4 cm^2

7. The area of the rectangle below is 29 ¼ square feet. What is its width in inches?



a. 2 ¼

b. 9

c. 25

d. 27

The prism shown has three visible faces. Determine which solution is reasonable to calculate the surface area of the visible faces.

$(8 \times 8) - (4 \times 6) + 2(8 \times 7)$

$2(8 \times 7) + (4 \times 8) - (4 \times 6)$

$(8 \times 7) + (4 \times 6) + 2(2 \times 4)$

$(8 \times 4) - (2 \times 4) + 2(8 \times 7)$

A small soccer field is to be enlarged, though its shape will stay the same. What will be the perimeter of the new field?

190 yd

270 yd

2100 yd

4215 yd

The diameter of a circular serving tray is 45 cm. A server carries 12 glasses on the tray. Five of the glasses have diameters of 8 cm. The other glasses have diameters of 5 cm. Which formula would you use to determine how much space remains on the tray?

$\pi(45)^2 - 7\pi(5)^2 + 5\pi(8)^2$

$\pi(45)^2 - 7\pi(5)^2 - 5\pi(8)^2$

$\pi(22.5)^2 - 7\pi(2.5)^2 + 5\pi(4)^2$

$\pi(22.5)^2 - 7\pi(2.5)^2 - 5\pi(4)^2$

A baskeball key is a painted area on the floor that consists of a semicircle plus a rectangle as shown below. Find the area of the semicircle.

57 ft^2

113 ft^2

226 ft^2

452 ft^2

Find the surface area of the cone below.

108 m^2

120 m^2

299 m^2

321 m^2

Which shape has a surface area smaller than that of the pyramid below?

Sharon wants to paint the front of her garage (shown below). The door measures 1.5 m by 2 m, and doesn't need to be painted. One can of paint covers 2.5 m^2. How many cans of paint should Sharon purchase to ensure she has enough, and to minimize waste?

1

2

3

4

If the length of a rectangle is increased by a factor of 4 and the width of the rectangle is increased by a factor of 7, which of the following is true?

I.	The area of the new rectangle is 28 times the area of the original rectangle.
II.	The area of the new rectangle is $(28)^2$ times the area of the original rectangle.
III.	The perimeter of the new rectangle is 28 times the perimeter of the original rectangle.

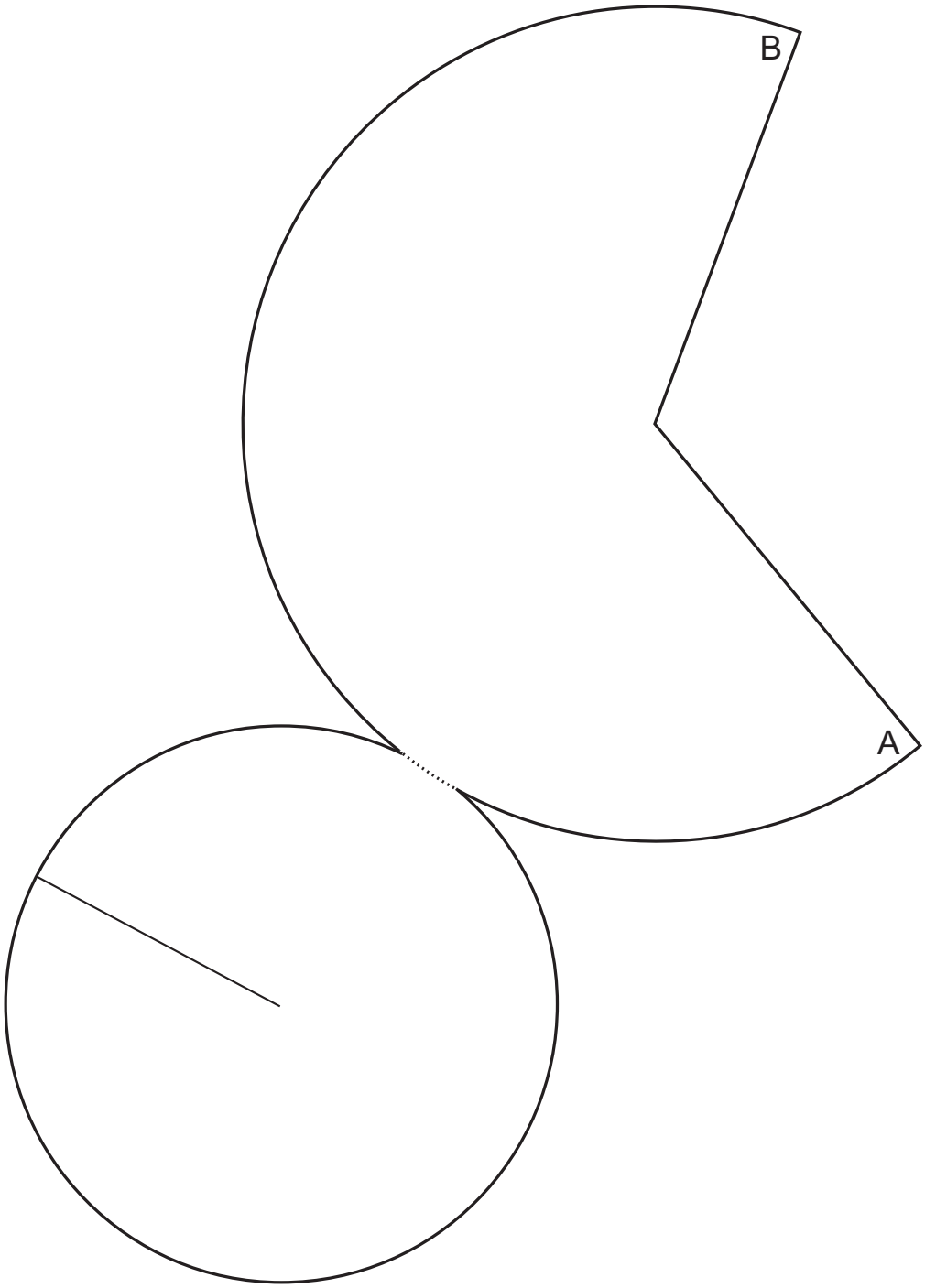
I only

II only

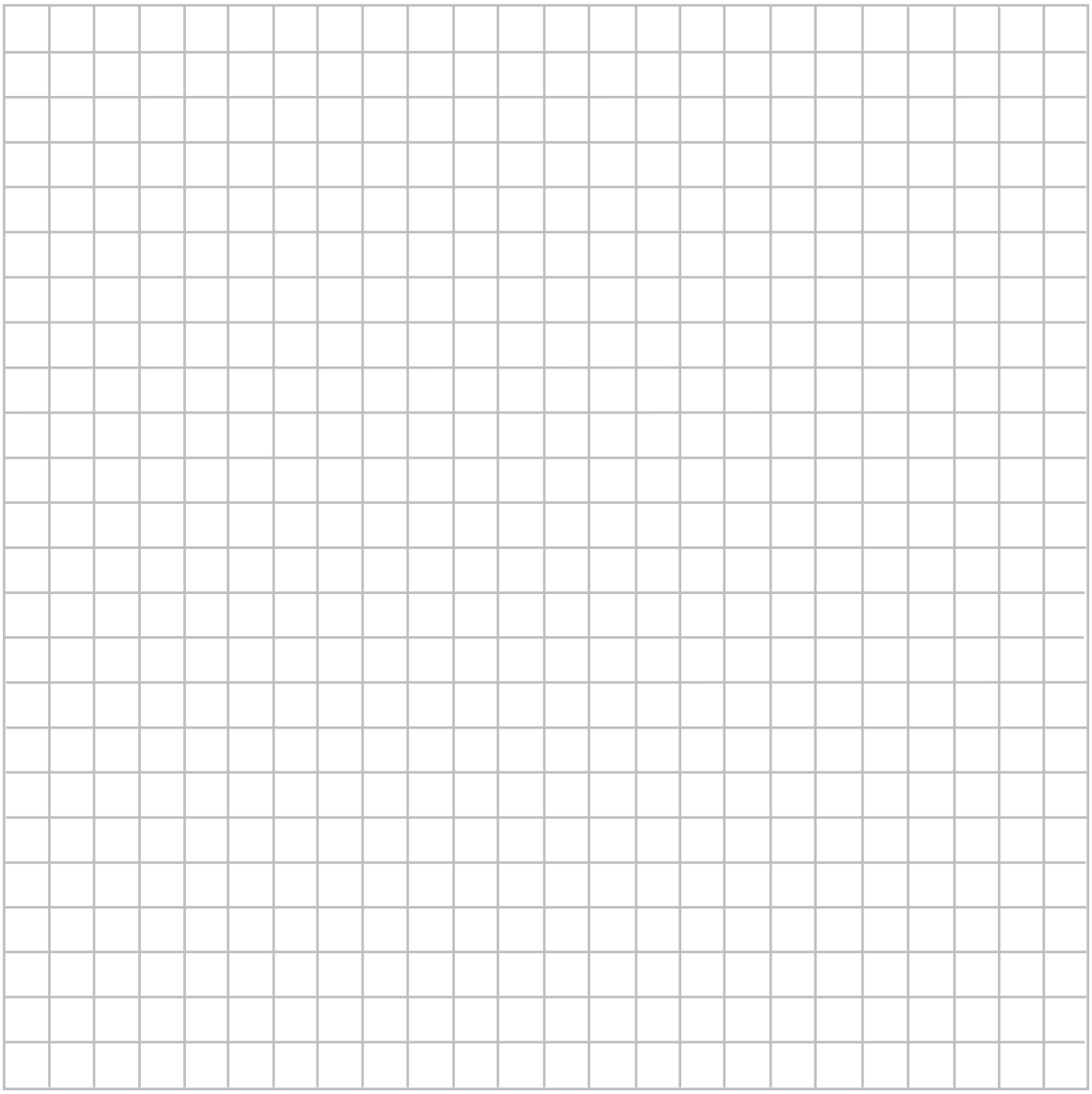
II and III

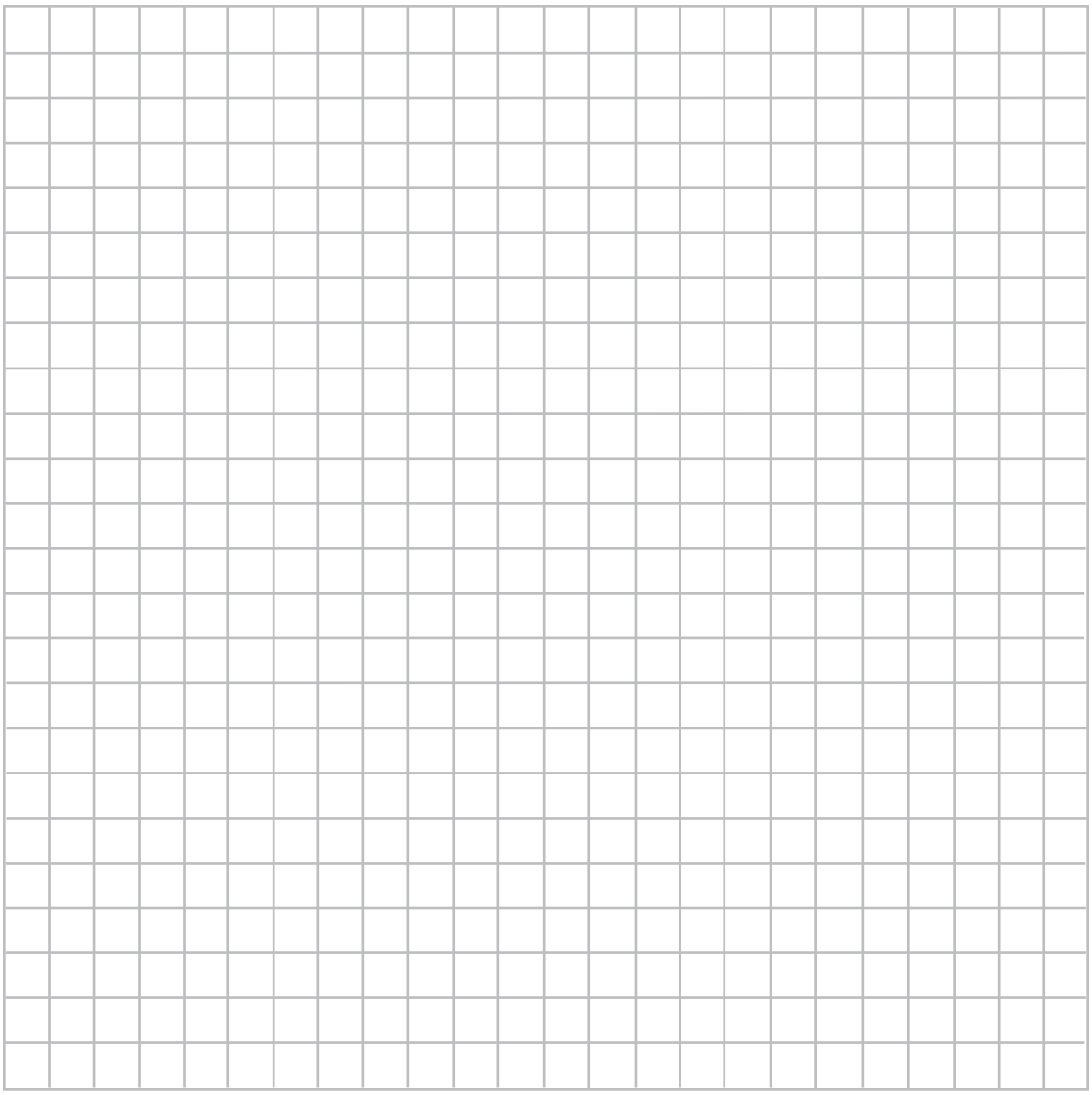
III only

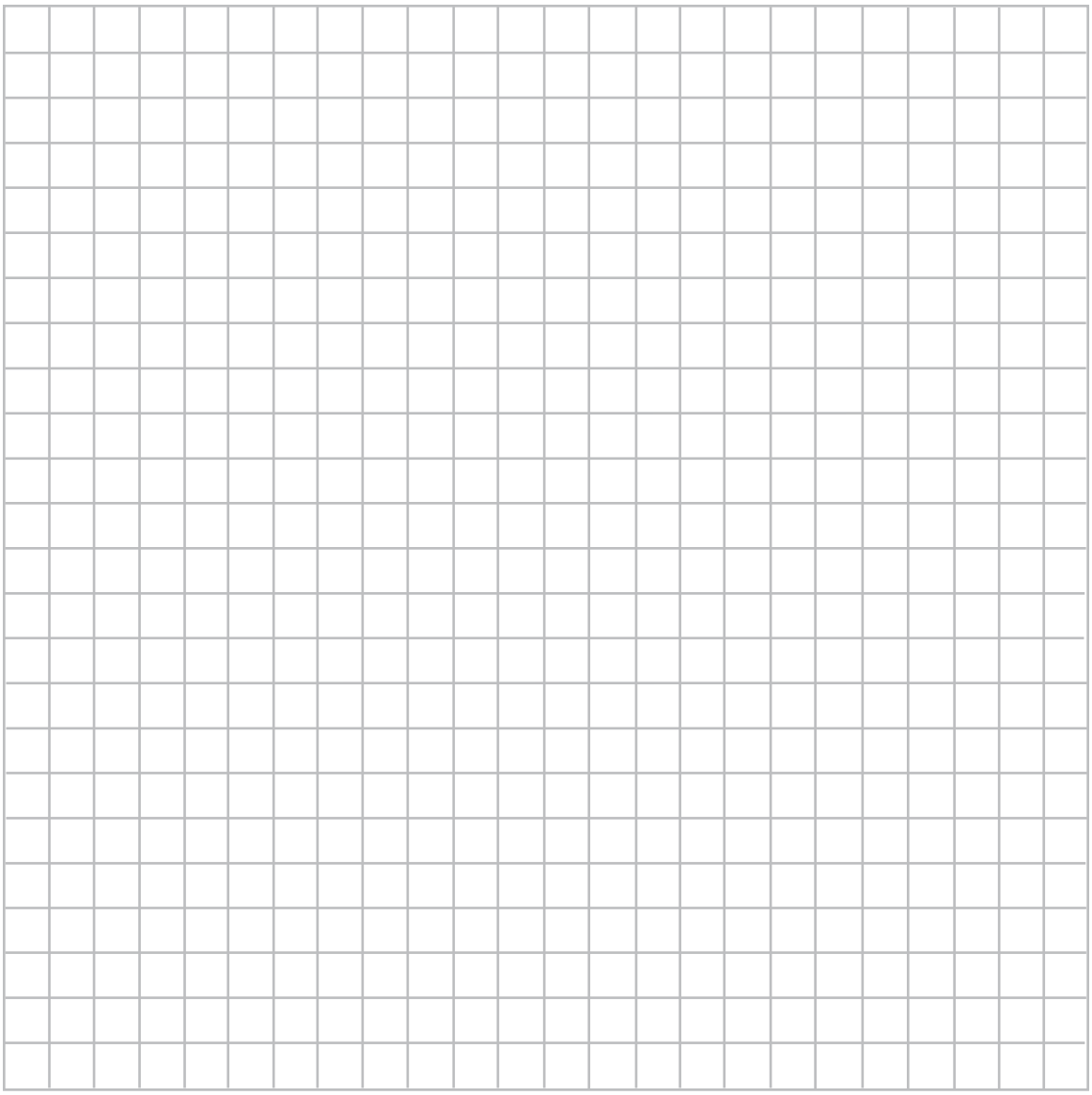
Cone Net Template

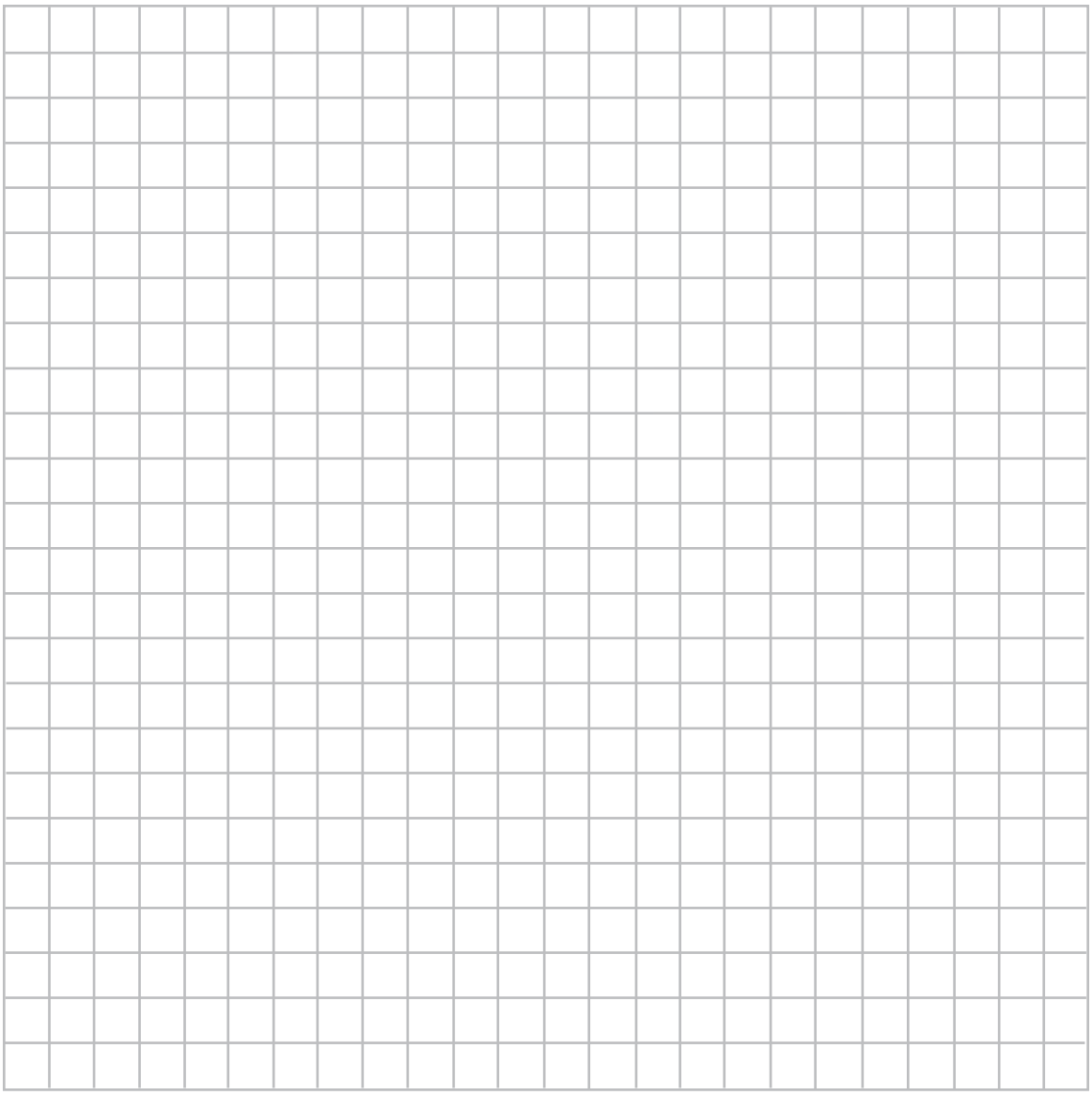


Grid Paper

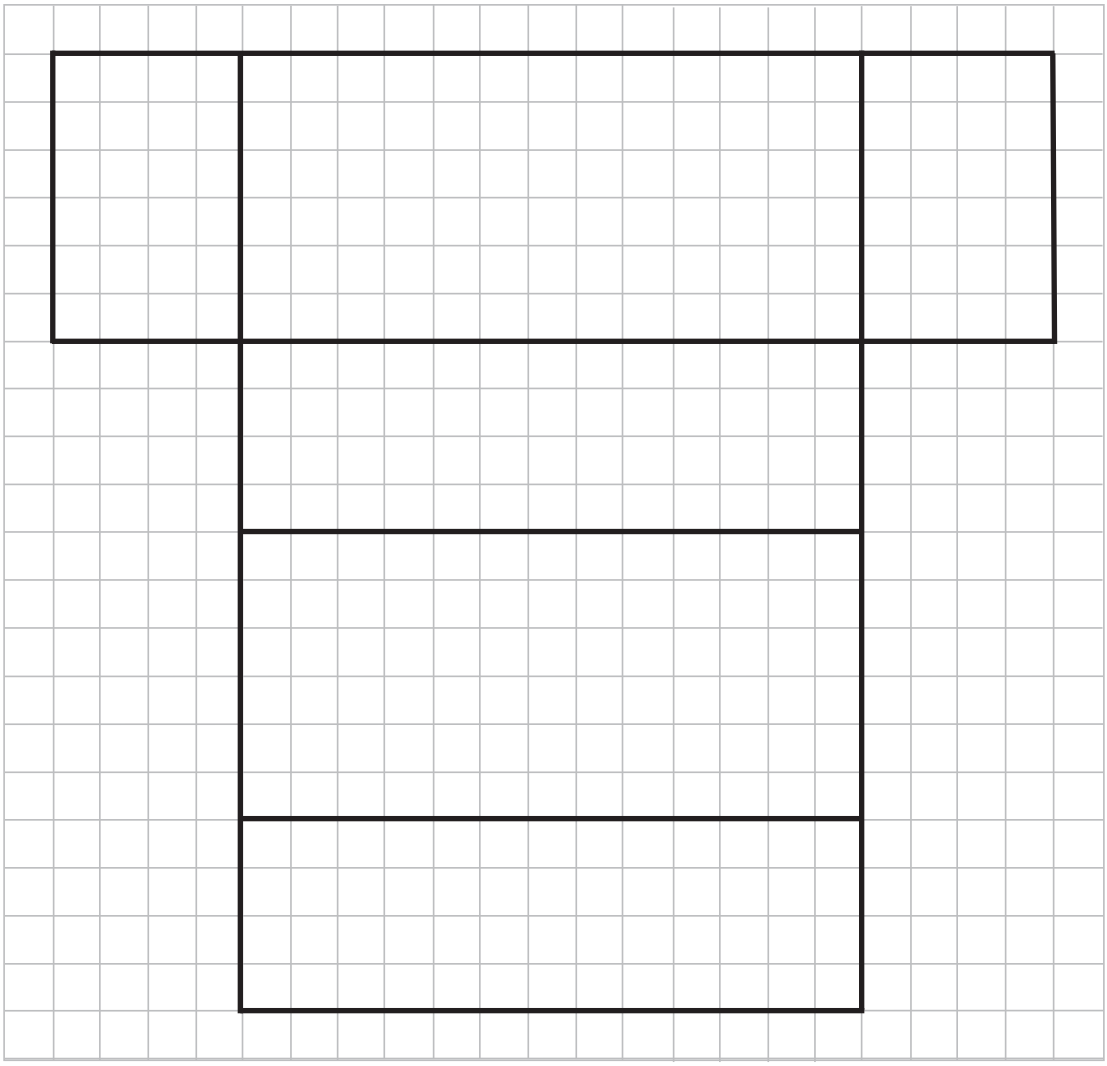




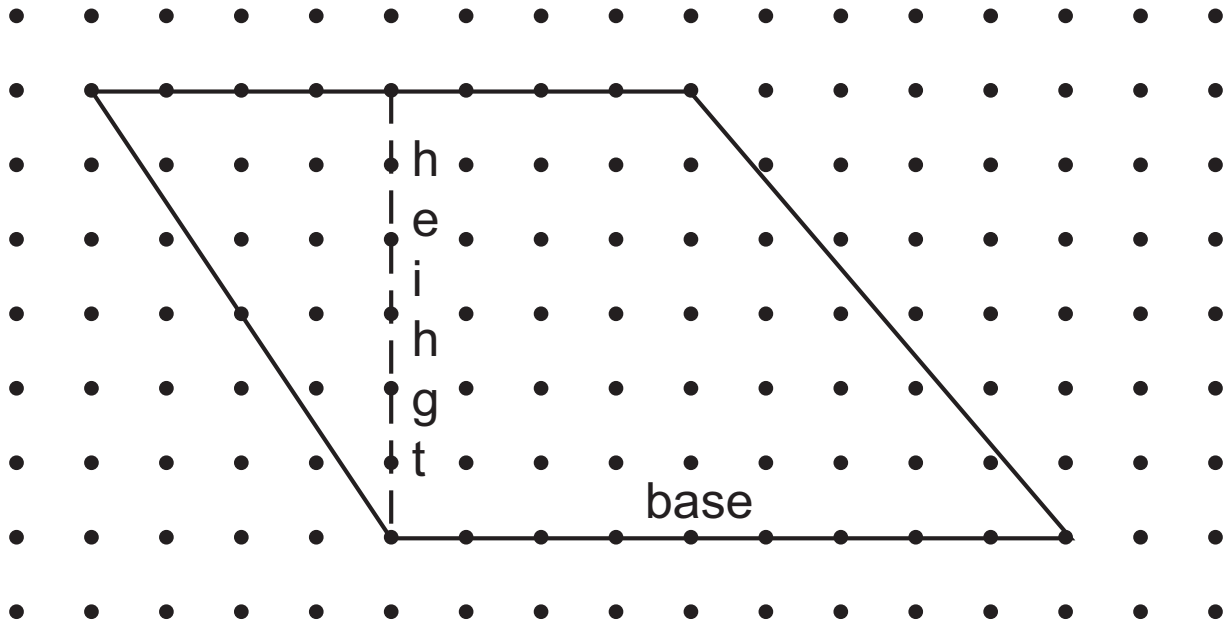




Net for Activity 3



Parallelogram Template



Triangle Template

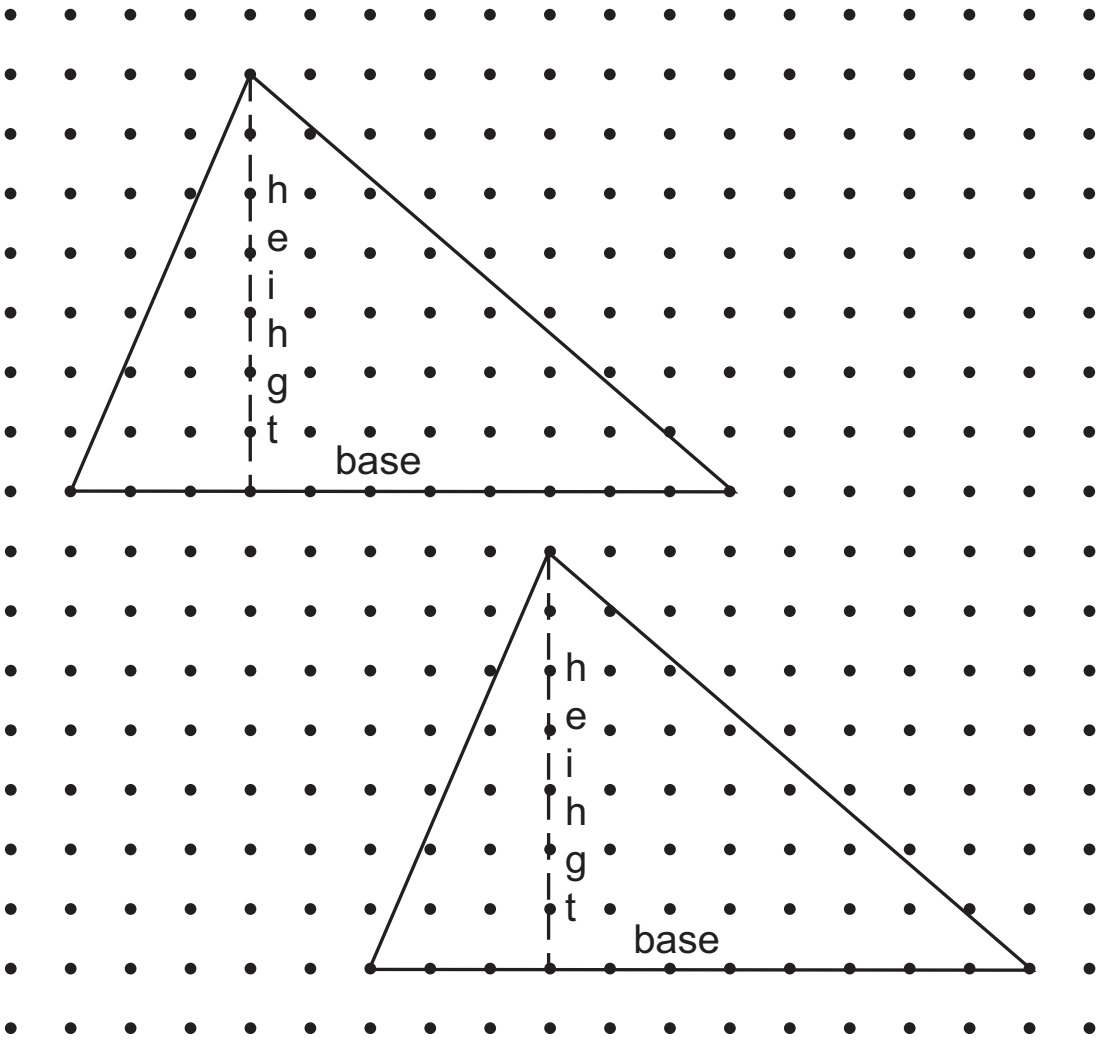


TABLE OF CONVERSIONS

1 inch	$\approx$	2.54 centimetres
1 foot	$\approx$	30.5 centimetres
1 foot	$\approx$	0.305 metres
1 foot	$=$	12 inches
1 yard	$=$	3 feet
1 yard	$\approx$	0.915 metres
1 mile	$=$	1760 yards
1 mile	$\approx$	1.6 kilometres
1 kilogram	$\approx$	2.2 pounds
1 litre	$\approx$	1.06 US quarts
1 litre	$\approx$	0.26 US gallons
1 gallon	$\approx$	4 quarts
1 British gallon	$\approx$	$\frac{6}{5}$ US gallon

FORMULAE

Temperature

$$C = \frac{5}{9}(F - 32)$$

Trigonometry

(Put your calculator in Degree Mode)

- Right triangles

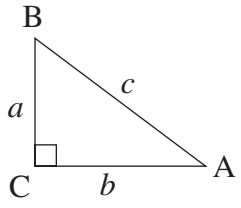
Pythagorean Theorem

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

$$\sin A = \frac{\text{opposite}}{\text{hypotenuse}}$$

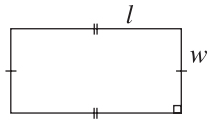
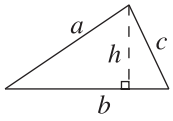
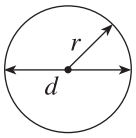
$$\cos A = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\tan A = \frac{\text{opposite}}{\text{adjacent}}$$

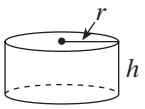
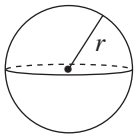
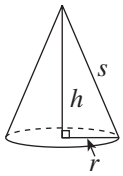
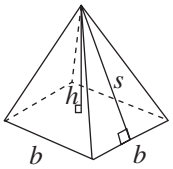
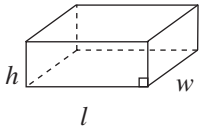


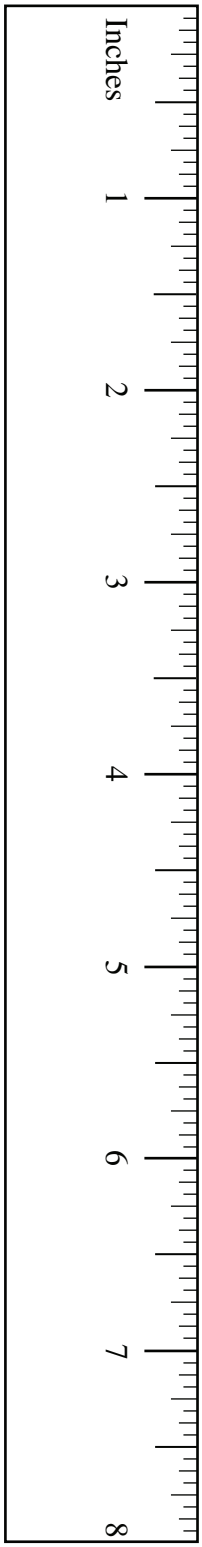
GEOMETRIC FORMULAE

Key Legend	
l = length	P = perimeter
w = width	C = circumference
b = base	A = area
h = height	SA = surface area
s = slant height	V = volume
r = radius	
d = diameter	

Geometric Figure	Perimeter	Area
Rectangle 	$P = 2l + 2w$ **or** $P = 2(l + w)$	$A = lw$
Triangle 	$P = a + b + c$	$A = \frac{bh}{2}$
Circle 	$C = \pi d$ **or** $C = 2\pi r$	$A = \pi r^2$

Note: Use the value of **π** programmed in your calculator rather than the approximation of 3.14.

Geometric Figure	Surface Area
Cylinder 	$A_{top} = \pi r^2$ $A_{base} = \pi r^2$ $A_{side} = 2\pi rh$ $SA = 2\pi r^2 + 2\pi rh$
Sphere 	$SA = 4\pi r^2$ **or** $SA = \pi d^2$
Cone 	$A_{side} = \pi rs$ $A_{base} = \pi r^2$ $SA = \pi r^2 + \pi rs$
Square-Based Pyramid 	$A_{triangle} = \frac{1}{2}bs$ (for each triangle) $A_{base} = b^2$ $SA = 2bs + b^2$
Rectangular Prism 	$SA = wh + wh + lw + lw + lh + lh$ **or** $SA = 2(wh + lw + lh)$
General Right Prism	SA = the sum of the areas of all the faces
General Pyramid	SA = the sum of the areas of all the faces



Note: Use the value of **π** programmed in your calculator rather than the approximation of 3.14.

Canada Pension Plan Contributions

Weekly (52 pay periods a year)

Cotisations au Régime de pensions du Canada

Hebdomadaire (52 périodes de paie par année)

Pay Rémunération From - De	To - À	CPP RPC	Pay Rémunération From - De	To - À	CPP RPC	Pay Rémunération From - De	To - À	CPP RPC	Pay Rémunération From - De	To - À	CPP RPC
358.11 -	358.31	14.40	372.66 -	372.85	15.12	387.20 -	387.40	15.84	401.75 -	401.94	16.56
358.32 -	358.51	14.41	372.86 -	373.05	15.13	387.41 -	387.60	15.85	401.95 -	402.14	16.57
358.52 -	358.71	14.42	373.06 -	373.25	15.14	387.61 -	387.80	15.86	402.15 -	402.35	16.58
358.72 -	358.91	14.43	373.26 -	373.46	15.15	387.81 -	388.00	15.87	402.36 -	402.55	16.59
358.92 -	359.11	14.44	373.47 -	373.66	15.16	388.01 -	388.20	15.88	402.56 -	402.75	16.60
359.12 -	359.32	14.45	373.67 -	373.86	15.17	388.21 -	388.41	15.89	402.76 -	402.95	16.61
359.33 -	359.52	14.46	373.87 -	374.06	15.18	388.42 -	388.61	15.90	402.96 -	403.15	16.62
359.53 -	359.72	14.47	374.07 -	374.26	15.19	388.62 -	388.81	15.91	403.16 -	403.36	16.63
359.73 -	359.92	14.48	374.27 -	374.47	15.20	388.82 -	389.01	15.92	403.37 -	403.56	16.64
359.93 -	360.12	14.49	374.48 -	374.67	15.21	389.02 -	389.21	15.93	403.57 -	403.76	16.65
360.13 -	360.33	14.50	374.68 -	374.87	15.22	389.22 -	389.42	15.94	403.77 -	403.96	16.66
360.34 -	360.53	14.51	374.88 -	375.07	15.23	389.43 -	389.62	15.95	403.97 -	404.16	16.67
360.54 -	360.73	14.52	375.08 -	375.27	15.24	389.63 -	389.82	15.96	404.17 -	404.37	16.68
360.74 -	360.93	14.53	375.28 -	375.48	15.25	389.83 -	390.02	15.97	404.38 -	404.57	16.69
360.94 -	361.13	14.54	375.49 -	375.68	15.26	390.03 -	390.22	15.98	404.58 -	404.77	16.70
361.14 -	361.34	14.55	375.69 -	375.88	15.27	390.23 -	390.43	15.99	404.78 -	404.97	16.71
361.35 -	361.54	14.56	375.89 -	376.08	15.28	390.44 -	390.63	16.00	404.98 -	405.17	16.72
361.55 -	361.74	14.57	376.09 -	376.28	15.29	390.64 -	390.83	16.01	405.18 -	405.38	16.73
361.75 -	361.94	14.58	376.29 -	376.49	15.30	390.84 -	391.03	16.02	405.39 -	405.58	16.74
361.95 -	362.14	14.59	376.50 -	376.69	15.31	391.04 -	391.23	16.03	405.59 -	405.78	16.75
362.15 -	362.35	14.60	376.70 -	376.89	15.32	391.24 -	391.44	16.04	405.79 -	405.98	16.76
362.36 -	362.55	14.61	376.90 -	377.09	15.33	391.45 -	391.64	16.05	405.99 -	406.18	16.77
362.56 -	362.75	14.62	377.10 -	377.29	15.34	391.65 -	391.84	16.06	406.19 -	406.39	16.78
362.76 -	362.95	14.63	377.30 -	377.50	15.35	391.85 -	392.04	16.07	406.40 -	406.59	16.79
362.96 -	363.15	14.64	377.51 -	377.70	15.36	392.05 -	392.24	16.08	406.60 -	406.79	16.80
363.16 -	363.36	14.65	377.71 -	377.90	15.37	392.25 -	392.45	16.09	406.80 -	406.99	16.81
363.37 -	363.56	14.66	377.91 -	378.10	15.38	392.46 -	392.65	16.10	407.00 -	407.19	16.82
363.57 -	363.76	14.67	378.11 -	378.31	15.39	392.66 -	392.85	16.11	407.20 -	407.40	16.83
363.77 -	363.96	14.68	378.32 -	378.51	15.40	392.86 -	393.05	16.12	407.41 -	407.60	16.84
363.97 -	364.16	14.69	378.52 -	378.71	15.41	393.06 -	393.25	16.13	407.61 -	407.80	16.85
364.17 -	364.37	14.70	378.72 -	378.91	15.42	393.26 -	393.46	16.14	407.81 -	408.00	16.86
364.38 -	364.57	14.71	378.92 -	379.11	15.43	393.47 -	393.66	16.15	408.01 -	408.20	16.87
364.58 -	364.77	14.72	379.12 -	379.32	15.44	393.67 -	393.86	16.16	408.21 -	408.41	16.88
364.78 -	364.97	14.73	379.33 -	379.52	15.45	393.87 -	394.06	16.17	408.42 -	408.61	16.89
364.98 -	365.17	14.74	379.53 -	379.72	15.46	394.07 -	394.26	16.18	408.62 -	408.81	16.90
365.18 -	365.38	14.75	379.73 -	379.92	15.47	394.27 -	394.47	16.19	408.82 -	409.01	16.91
365.39 -	365.58	14.76	379.93 -	380.12	15.48	394.48 -	394.67	16.20	409.02 -	409.21	16.92
365.59 -	365.78	14.77	380.13 -	380.33	15.49	394.68 -	394.87	16.21	409.22 -	409.42	16.93
365.79 -	365.98	14.78	380.34 -	380.53	15.50	394.88 -	395.07	16.22	409.43 -	409.62	16.94
365.99 -	366.18	14.79	380.54 -	380.73	15.51	395.08 -	395.27	16.23	409.63 -	409.82	16.95
366.19 -	366.39	14.80	380.74 -	380.93	15.52	395.28 -	395.48	16.24	409.83 -	410.02	16.96
366.40 -	366.59	14.81	380.94 -	381.13	15.53	395.49 -	395.68	16.25	410.03 -	410.22	16.97
366.60 -	366.79	14.82	381.14 -	381.34	15.54	395.69 -	395.88	16.26	410.23 -	410.43	16.98
366.80 -	366.99	14.83	381.35 -	381.54	15.55	395.89 -	396.08	16.27	410.44 -	410.63	16.99
367.00 -	367.19	14.84	381.55 -	381.74	15.56	396.09 -	396.28	16.28	410.64 -	410.83	17.00
367.20 -	367.40	14.85	381.75 -	381.94	15.57	396.29 -	396.49	16.29	410.84 -	411.03	17.01
367.41 -	367.60	14.86	381.95 -	382.14	15.58	396.50 -	396.69	16.30	411.04 -	411.23	17.02
367.61 -	367.80	14.87	382.15 -	382.35	15.59	396.70 -	396.89	16.31	411.24 -	411.44	17.03
367.81 -	368.00	14.88	382.36 -	382.55	15.60	396.90 -	397.09	16.32	411.45 -	411.64	17.04
368.01 -	368.20	14.89	382.56 -	382.75	15.61	397.10 -	397.29	16.33	411.65 -	411.84	17.05
368.21 -	368.41	14.90	382.76 -	382.95	15.62	397.30 -	397.50	16.34	411.85 -	412.04	17.06
368.42 -	368.61	14.91	382.96 -	383.15	15.63	397.51 -	397.70	16.35	412.05 -	412.24	17.07
368.62 -	368.81	14.92	383.16 -	383.36	15.64	397.71 -	397.90	16.36	412.25 -	412.45	17.08
368.82 -	369.01	14.93	383.37 -	383.56	15.65	397.91 -	398.10	16.37	412.46 -	412.65	17.09
369.02 -	369.21	14.94	383.57 -	383.76	15.66	398.11 -	398.31	16.38	412.66 -	412.85	17.10
369.22 -	369.42	14.95	383.77 -	383.96	15.67	398.32 -	398.51	16.39	412.86 -	413.05	17.11
369.43 -	369.62	14.96	383.97 -	384.16	15.68	398.52 -	398.71	16.40	413.06 -	413.25	17.12
369.63 -	369.82	14.97	384.17 -	384.37	15.69	398.72 -	398.91	16.41	413.26 -	413.46	17.13
369.83 -	370.02	14.98	384.38 -	384.57	15.70	398.92 -	399.11	16.42	413.47 -	413.66	17.14
370.03 -	370.22	14.99	384.58 -	384.77	15.71	399.12 -	399.32	16.43	413.67 -	413.86	17.15
370.23 -	370.43	15.00	384.78 -	384.97	15.72	399.33 -	399.52	16.44	413.87 -	414.06	17.16
370.44 -	370.63	15.01	384.98 -	385.17	15.73	399.53 -	399.72	16.45	414.07 -	414.26	17.17
370.64 -	370.83	15.02	385.18 -	385.38	15.74	399.73 -	399.92	16.46	414.27 -	414.47	17.18
370.84 -	371.03	15.03	385.39 -	385.58	15.75	399.93 -	400.12	16.47	414.48 -	414.67	17.19
371.04 -	371.23	15.04	385.59 -	385.78	15.76	400.13 -	400.33	16.48	414.68 -	414.87	17.20
371.24 -	371.44	15.05	385.79 -	385.98	15.77	400.34 -	400.53	16.49	414.88 -	415.07	17.21
371.45 -	371.64	15.06	385.99 -	386.18	15.78	400.54 -	400.73	16.50	415.08 -	415.27	17.22
371.65 -	371.84	15.07	386.19 -	386.39	15.79	400.74 -	400.93	16.51	415.28 -	415.48	17.23
371.85 -	372.04	15.08	386.40 -	386.59	15.80	400.94 -	401.13	16.52	415.49 -	415.68	17.24
372.05 -	372.24	15.09	386.60 -	386.79	15.81	401.14 -	401.34	16.53	415.69 -	415.88	17.25
372.25 -	372.45	15.10	386.80 -	386.99	15.82	401.35 -	401.54	16.54	415.89 -	416.08	17.26
372.46 -	372.65	15.11	387.00 -	387.19	15.83	401.55 -	401.74	16.55	416.09 -	416.28	17.27

Employee's maximum CPP contribution for the year 2009 is $2,118.60

La cotisation maximale de l'employé au RPC pour l'année 2009 est de 2 118,60 $

Employment Insurance Premiums — Cotisations à l'assurance-emploi

Insurable Earnings Rémunération assurable From - De	To - À	EI premium Cotisation d'AE	Insurable Earnings Rémunération assurable From - De	To - À	EI premium Cotisation d'AE	Insurable Earnings Rémunération assurable From - De	To - À	EI premium Cotisation d'AE	Insurable Earnings Rémunération assurable From - De	To - À	EI premium Cotisation d'AE
333.24 -	333.81	5.77	374.86 -	375.43	6.49	416.48 -	417.05	7.21	458.10 -	458.67	7.93
333.82 -	334.39	5.78	375.44 -	376.01	6.50	417.06 -	417.63	7.22	458.68 -	459.24	7.94
334.40 -	334.97	5.79	376.02 -	376.58	6.51	417.64 -	418.20	7.23	459.25 -	459.82	7.95
334.98 -	335.54	5.80	376.59 -	377.16	6.52	418.21 -	418.78	7.24	459.83 -	460.40	7.96
335.55 -	336.12	5.81	377.17 -	377.74	6.53	418.79 -	419.36	7.25	460.41 -	460.98	7.97
336.13 -	336.70	5.82	377.75 -	378.32	6.54	419.37 -	419.94	7.26	460.99 -	461.56	7.98
336.71 -	337.28	5.83	378.33 -	378.90	6.55	419.95 -	420.52	7.27	461.57 -	462.13	7.99
337.29 -	337.86	5.84	378.91 -	379.47	6.56	420.53 -	421.09	7.28	462.14 -	462.71	8.00
337.87 -	338.43	5.85	379.48 -	380.05	6.57	421.10 -	421.67	7.29	462.72 -	463.29	8.01
338.44 -	339.01	5.86	380.06 -	380.63	6.58	421.68 -	422.25	7.30	463.30 -	463.87	8.02
339.02 -	339.59	5.87	380.64 -	381.21	6.59	422.26 -	422.83	7.31	463.88 -	464.45	8.03
339.60 -	340.17	5.88	381.22 -	381.79	6.60	422.84 -	423.41	7.32	464.46 -	465.02	8.04
340.18 -	340.75	5.89	381.80 -	382.36	6.61	423.42 -	423.98	7.33	465.03 -	465.60	8.05
340.76 -	341.32	5.90	382.37 -	382.94	6.62	423.99 -	424.56	7.34	465.61 -	466.18	8.06
341.33 -	341.90	5.91	382.95 -	383.52	6.63	424.57 -	425.14	7.35	466.19 -	466.76	8.07
341.91 -	342.48	5.92	383.53 -	384.10	6.64	425.15 -	425.72	7.36	466.77 -	467.34	8.08
342.49 -	343.06	5.93	384.11 -	384.68	6.65	425.73 -	426.30	7.37	467.35 -	467.91	8.09
343.07 -	343.64	5.94	384.69 -	385.26	6.66	426.31 -	426.87	7.38	467.92 -	468.49	8.10
343.65 -	344.21	5.95	385.27 -	385.83	6.67	426.88 -	427.45	7.39	468.50 -	469.07	8.11
344.22 -	344.79	5.96	385.84 -	386.41	6.68	427.46 -	428.03	7.40	469.08 -	469.65	8.12
344.80 -	345.37	5.97	386.42 -	386.99	6.69	428.04 -	428.61	7.41	469.66 -	470.23	8.13
345.38 -	345.95	5.98	387.00 -	387.57	6.70	428.62 -	429.19	7.42	470.24 -	470.80	8.14
345.96 -	346.53	5.99	387.58 -	388.15	6.71	429.20 -	429.76	7.43	470.81 -	471.38	8.15
346.54 -	347.10	6.00	388.16 -	388.72	6.72	429.77 -	430.34	7.44	471.39 -	471.96	8.16
347.11 -	347.68	6.01	388.73 -	389.30	6.73	430.35 -	430.92	7.45	471.97 -	472.54	8.17
347.69 -	348.26	6.02	389.31 -	389.88	6.74	430.93 -	431.50	7.46	472.55 -	473.12	8.18
348.27 -	348.84	6.03	389.89 -	390.46	6.75	431.51 -	432.08	7.47	473.13 -	473.69	8.19
348.85 -	349.42	6.04	390.47 -	391.04	6.76	432.09 -	432.65	7.48	473.70 -	474.27	8.20
349.43 -	349.99	6.05	391.05 -	391.61	6.77	432.66 -	433.23	7.49	474.28 -	474.85	8.21
350.00 -	350.57	6.06	391.62 -	392.19	6.78	433.24 -	433.81	7.50	474.86 -	475.43	8.22
350.58 -	351.15	6.07	392.20 -	392.77	6.79	433.82 -	434.39	7.51	475.44 -	476.01	8.23
351.16 -	351.73	6.08	392.78 -	393.35	6.80	434.40 -	434.97	7.52	476.02 -	476.58	8.24
351.74 -	352.31	6.09	393.36 -	393.93	6.81	434.98 -	435.54	7.53	476.59 -	477.16	8.25
352.32 -	352.89	6.10	393.94 -	394.50	6.82	435.55 -	436.12	7.54	477.17 -	477.74	8.26
352.90 -	353.46	6.11	394.51 -	395.08	6.83	436.13 -	436.70	7.55	477.75 -	478.32	8.27
353.47 -	354.04	6.12	395.09 -	395.66	6.84	436.71 -	437.28	7.56	478.33 -	478.90	8.28
354.05 -	354.62	6.13	395.67 -	396.24	6.85	437.29 -	437.86	7.57	478.91 -	479.47	8.29
354.63 -	355.20	6.14	396.25 -	396.82	6.86	437.87 -	438.43	7.58	479.48 -	480.05	8.30
355.21 -	355.78	6.15	396.83 -	397.39	6.87	438.44 -	439.01	7.59	480.06 -	480.63	8.31
355.79 -	356.35	6.16	397.40 -	397.97	6.88	439.02 -	439.59	7.60	480.64 -	481.21	8.32
356.36 -	356.93	6.17	397.98 -	398.55	6.89	439.60 -	440.17	7.61	481.22 -	481.79	8.33
356.94 -	357.51	6.18	398.56 -	399.13	6.90	440.18 -	440.75	7.62	481.80 -	482.36	8.34
357.52 -	358.09	6.19	399.14 -	399.71	6.91	440.76 -	441.32	7.63	482.37 -	482.94	8.35
358.10 -	358.67	6.20	399.72 -	400.28	6.92	441.33 -	441.90	7.64	482.95 -	483.52	8.36
358.68 -	359.24	6.21	400.29 -	400.86	6.93	441.91 -	442.48	7.65	483.53 -	484.10	8.37
359.25 -	359.82	6.22	400.87 -	401.44	6.94	442.49 -	443.06	7.66	484.11 -	484.68	8.38
359.83 -	360.40	6.23	401.45 -	402.02	6.95	443.07 -	443.64	7.67	484.69 -	485.26	8.39
360.41 -	360.98	6.24	402.03 -	402.60	6.96	443.65 -	444.21	7.68	485.27 -	485.83	8.40
360.99 -	361.56	6.25	402.61 -	403.17	6.97	444.22 -	444.79	7.69	485.84 -	486.41	8.41
361.57 -	362.13	6.26	403.18 -	403.75	6.98	444.80 -	445.37	7.70	486.42 -	486.99	8.42
362.14 -	362.71	6.27	403.76 -	404.33	6.99	445.38 -	445.95	7.71	487.00 -	487.57	8.43
362.72 -	363.29	6.28	404.34 -	404.91	7.00	445.96 -	446.53	7.72	487.58 -	488.15	8.44
363.30 -	363.87	6.29	404.92 -	405.49	7.01	446.54 -	447.10	7.73	488.16 -	488.72	8.45
363.88 -	364.45	6.30	405.50 -	406.06	7.02	447.11 -	447.68	7.74	488.73 -	489.30	8.46
364.46 -	365.02	6.31	406.07 -	406.64	7.03	447.69 -	448.26	7.75	489.31 -	489.88	8.47
365.03 -	365.60	6.32	406.65 -	407.22	7.04	448.27 -	448.84	7.76	489.89 -	490.46	8.48
365.61 -	366.18	6.33	407.23 -	407.80	7.05	448.85 -	449.42	7.77	490.47 -	491.04	8.49
366.19 -	366.76	6.34	407.81 -	408.38	7.06	449.43 -	449.99	7.78	491.05 -	491.61	8.50
366.77 -	367.34	6.35	408.39 -	408.95	7.07	450.00 -	450.57	7.79	491.62 -	492.19	8.51
367.35 -	367.91	6.36	408.96 -	409.53	7.08	450.58 -	451.15	7.80	492.20 -	492.77	8.52
367.92 -	368.49	6.37	409.54 -	410.11	7.09	451.16 -	451.73	7.81	492.78 -	493.35	8.53
368.50 -	369.07	6.38	410.12 -	410.69	7.10	451.74 -	452.31	7.82	493.36 -	493.93	8.54
369.08 -	369.65	6.39	410.70 -	411.27	7.11	452.32 -	452.89	7.83	493.94 -	494.50	8.55
369.66 -	370.23	6.40	411.28 -	411.84	7.12	452.90 -	453.46	7.84	494.51 -	495.08	8.56
370.24 -	370.80	6.41	411.85 -	412.42	7.13	453.47 -	454.04	7.85	495.09 -	495.66	8.57
370.81 -	371.38	6.42	412.43 -	413.00	7.14	454.05 -	454.62	7.86	495.67 -	496.24	8.58
371.39 -	371.96	6.43	413.01 -	413.58	7.15	454.63 -	455.20	7.87	496.25 -	496.82	8.59
371.97 -	372.54	6.44	413.59 -	414.16	7.16	455.21 -	455.78	7.88	496.83 -	497.39	8.60
372.55 -	373.12	6.45	414.17 -	414.73	7.17	455.79 -	456.35	7.89	497.40 -	497.97	8.61
373.13 -	373.69	6.46	414.74 -	415.31	7.18	456.36 -	456.93	7.90	497.98 -	498.55	8.62
373.70 -	374.27	6.47	415.32 -	415.89	7.19	456.94 -	457.51	7.91	498.56 -	499.13	8.63
374.28 -	374.85	6.48	415.90 -	416.47	7.20	457.52 -	458.09	7.92	499.14 -	499.71	8.64

Yearly maximum insurable earnings are $42,300
Yearly maximum employee premiums are $731.79
The premium rate for 2009 is 1.73 %

Le maximum annuel de la rémunération assurable est de 42 300 $
La cotisation maximale annuelle de l'employé est de 731,79 $
Le taux de cotisation pour 2009 est de 1,73 %

Federal tax deductions
Effective January 1, 2009
Weekly (52 pay periods a year)
Also look up the tax deductions in the provincial table

Retenues d'impôt fédéral
En vigueur le 1er janvier 2009
Hebdomadaire (52 périodes de paie par année)
Cherchez aussi les retenues d'impôt dans la table provinciale

Pay Rémunération		Federal claim codes/Codes de demande fédéraux										
		0	1	2	3	4	5	6	7	8	9	10
From De	Less than Moins de	Deduct from each pay Retenez sur chaque paie										
335	339	44.65	15.55	12.70	7.00	1.30						
339	343	45.20	16.10	13.25	7.55	1.85						
343	347	45.80	16.65	13.80	8.10	2.45						
347	351	46.35	17.20	14.35	8.65	3.00						
351	355	46.90	17.75	14.90	9.25	3.55						
355	359	47.45	18.35	15.50	9.80	4.10						
359	363	48.00	18.90	16.05	10.35	4.65						
363	367	48.60	19.45	16.60	10.90	5.25						
367	371	49.15	20.00	17.15	11.45	5.80	.10					
371	375	49.70	20.55	17.70	12.05	6.35	.65					
375	379	50.25	21.15	18.30	12.60	6.90	1.20					
379	383	50.80	21.70	18.85	13.15	7.45	1.80					
383	387	51.40	22.25	19.40	13.70	8.00	2.35					
387	391	51.95	22.80	19.95	14.25	8.60	2.90					
391	395	52.50	23.35	20.50	14.85	9.15	3.45					
395	399	53.05	23.95	21.10	15.40	9.70	4.00					
399	403	53.60	24.50	21.65	15.95	10.25	4.60					
403	407	54.20	25.05	22.20	16.50	10.80	5.15					
407	411	54.75	25.60	22.75	17.05	11.40	5.70					
411	415	55.30	26.15	23.30	17.65	11.95	6.25	.55				
415	419	55.85	26.75	23.90	18.20	12.50	6.80	1.15				
419	423	56.40	27.30	24.45	18.75	13.05	7.40	1.70				
423	427	57.00	27.85	25.00	19.30	13.60	7.95	2.25				
427	431	57.55	28.40	25.55	19.85	14.20	8.50	2.80				
431	435	58.10	28.95	26.10	20.45	14.75	9.05	3.35				
435	439	58.65	29.50	26.70	21.00	15.30	9.60	3.95				
439	443	59.20	30.10	27.25	21.55	15.85	10.20	4.50				
443	447	59.80	30.65	27.80	22.10	16.40	10.75	5.05				
447	451	60.35	31.20	28.35	22.65	17.00	11.30	5.60				
451	455	60.90	31.75	28.90	23.25	17.55	11.85	6.15	.50			
455	459	61.45	32.30	29.50	23.80	18.10	12.40	6.75	1.05			
459	463	62.00	32.90	30.05	24.35	18.65	12.95	7.30	1.60			
463	467	62.60	33.45	30.60	24.90	19.20	13.55	7.85	2.15			
467	471	63.15	34.00	31.15	25.45	19.80	14.10	8.40	2.70			
471	475	63.70	34.55	31.70	26.05	20.35	14.65	8.95	3.30			
475	479	64.25	35.10	32.30	26.60	20.90	15.20	9.55	3.85			
479	483	64.80	35.70	32.85	27.15	21.45	15.75	10.10	4.40			
483	487	65.40	36.25	33.40	27.70	22.00	16.35	10.65	4.95			
487	491	65.95	36.80	33.95	28.25	22.60	16.90	11.20	5.50			
491	495	66.50	37.35	34.50	28.85	23.15	17.45	11.75	6.10	.40		
495	499	67.05	37.90	35.10	29.40	23.70	18.00	12.35	6.65	.95		
499	503	67.60	38.50	35.65	29.95	24.25	18.55	12.90	7.20	1.50		
503	507	68.20	39.05	36.20	30.50	24.80	19.15	13.45	7.75	2.05		
507	511	68.75	39.60	36.75	31.05	25.40	19.70	14.00	8.30	2.65		
511	515	69.30	40.15	37.30	31.65	25.95	20.25	14.55	8.90	3.20		
515	519	69.85	40.70	37.90	32.20	26.50	20.80	15.15	9.45	3.75		
519	523	70.40	41.30	38.45	32.75	27.05	21.35	15.70	10.00	4.30		
523	527	71.00	41.85	39.00	33.30	27.60	21.95	16.25	10.55	4.85		
527	531	71.55	42.40	39.55	33.85	28.20	22.50	16.80	11.10	5.45		
531	535	72.10	42.95	40.10	34.45	28.75	23.05	17.35	11.70	6.00	.30	
535	539	72.65	43.50	40.70	35.00	29.30	23.60	17.90	12.25	6.55	.85	
539	543	73.20	44.10	41.25	35.55	29.85	24.15	18.50	12.80	7.10	1.40	
543	547	73.80	44.65	41.80	36.10	30.40	24.75	19.05	13.35	7.65	2.00	
547	551	74.35	45.20	42.35	36.65	31.00	25.30	19.60	13.90	8.25	2.55	
551	555	74.90	45.75	42.90	37.25	31.55	25.85	20.15	14.50	8.80	3.10	

This table is available on TOD **D-2** **Vous pouvez obtenir cette table sur TSD**

British Columbia provincial tax deductions
Effective January 1, 2009
Weekly (52 pay periods a year)
Also look up the tax deductions in the federal table

Retenues d'impôt provincial de la Colombie-Britannique
En vigueur le 1er janvier 2009
Hebdomadaire (52 périodes de paie par année)
Cherchez aussi les retenues d'impôt dans la table fédérale

Pay Rémunération			Provincial claim codes/Codes de demande provinciaux										
			0	1	2	3	4	5	6	7	8	9	10
From De	Less than Moins de		Deduct from each pay Retenez sur chaque paie										
		343	*	.00									
343	- 345		9.30	.20									
345	- 347		9.45	.35									
347	- 349		9.60	.50									
349	- 351		9.80	.65									
351	- 353		9.95	.80									
353	- 355		10.10	.95									
355	- 357		10.25	1.15	.10								
357	- 359		10.40	1.30	.25								
359	- 361		10.55	1.45	.40								
361	- 363		10.75	1.60	.60								
363	- 365		10.90	1.75	.75								
365	- 367		11.05	1.90	.90								
367	- 369		11.20	2.10	1.05								
369	- 371		11.35	2.25	1.20								
371	- 373		11.50	2.40	1.35								
373	- 375		11.70	2.55	1.55								
375	- 377		11.85	2.70	1.70								
377	- 379		12.00	2.90	1.85								
379	- 381		12.15	3.05	2.00								
381	- 383		12.30	3.20	2.15	.10							
383	- 385		12.45	3.35	2.30	.25							
385	- 387		12.65	3.50	2.50	.45							
387	- 389		12.80	3.65	2.65	.60							
389	- 391		12.95	3.85	2.80	.75							
391	- 393		13.10	4.00	2.95	.90							
393	- 395		13.25	4.15	3.10	1.05							
395	- 397		13.40	4.30	3.30	1.20							
397	- 399		13.60	4.45	3.45	1.40							
399	- 401		13.75	4.60	3.60	1.55							
401	- 403		13.90	4.80	3.75	1.70							
403	- 405		14.05	4.95	3.90	1.85							
405	- 407		14.20	5.10	4.05	2.00							
407	- 409		14.35	5.25	4.25	2.15	.10						
409	- 411		14.55	5.40	4.40	2.35	.30						
411	- 413		14.70	5.55	4.55	2.50	.45						
413	- 415		14.85	5.75	4.70	2.65	.60						
415	- 417		15.00	5.90	4.85	2.80	.75						
417	- 419		15.15	6.05	5.00	2.95	.90						
419	- 421		15.30	6.20	5.20	3.10	1.05						
421	- 423		15.50	6.35	5.35	3.30	1.25						
423	- 425		15.65	6.50	5.50	3.45	1.40						
425	- 427		15.80	6.70	5.65	3.60	1.55						
427	- 429		15.95	6.85	5.80	3.75	1.70						
429	- 431		16.10	7.00	5.95	3.90	1.85						
431	- 433		16.25	7.15	6.15	4.10	2.00						
433	- 435		16.45	7.30	6.30	4.25	2.20	.15					
435	- 437		16.60	7.45	6.45	4.40	2.35	.30					
437	- 439		16.75	7.65	6.60	4.55	2.50	.45					
439	- 441		16.90	7.80	6.75	4.70	2.65	.60					
441	- 443		17.05	7.95	6.90	4.85	2.80	.75					
443	- 445		17.20	8.10	7.10	5.05	2.95	.90					
445	- 447		17.40	8.25	7.25	5.20	3.15	1.10					
447	- 449		17.55	8.40	7.40	5.35	3.30	1.25					
449	- 451		17.70	8.60	7.55	5.50	3.45	1.40					

*You normally use claim code "0" only for non-resident employees. However, if you have non-resident employees who earn less than the minimum amount shown in the "Pay" column, you may not be able to use these tables. Instead, refer to the "Step-by-step calculation of tax deductions" in Section "A" of this publication.

*Le code de demande «0» est normalement utilisé seulement pour les non-résidents. Cependant, si la rémunération de votre employé non résidant est inférieure au montant minimum indiqué dans la colonne «Rémunération», vous ne pourrez peut-être pas utiliser ces tables. Reportez-vous alors au «Calcul des retenues d'impôt, étape par étape» dans la section «A» de cette publication.

This table is available on TOD **E-1** **Vous pouvez obtenir cette table sur TSD**