**ASSIGNMENT 1 – PERIMETER**

Calculate the perimeter of the following figures. Show your work and include the proper units in your answer.

1a)

18.3 cm

Formula for Perimeter: l x w x 2

= 18.3 x 2 + 8.5 x 2 = 53.6 cm

8.5 cm

b) Formula for Perimeter: Add all angles

= 12.3 + 9.6 + 6.2 + 5.1 + 10.3 = 43.5 cm

12.3 cm

9.6 cm

6.2 cm

5.1 cm

10.3 cm

c) Formula for Perimeter: l x w x 2

0.9 m = 0.9 x 2 + 2.3 x 2 + 1.2 = 7.6 m

1.2 m

0.9 m

2.3 m

2) Darlene is adding lace to the edge of a tablecloth. The tablecloth is 210 cm by 180 cm. How many centimetres does she need to go all the way around the tablecloth?

Formula for Perimeter: l x w x 2

= 210 x 2 + 180 x 2 = 780 cm

3) Chandra is building a fence around her swimming pool to completely surround it. The pool is 25 feet long and 12 feet wide. There is a 6 ft walkway around the entire pool. How much fencing will she need?

From 25 + 12 and from 12 + 12 = 37 ft by 24 ft

Walkway Formula for Perimeter: l x w x 2

= 37 x 2 + 24 x 2 = 122 ft

POOL Chandra will need 122 ft of fencing.

6 ft 6 ft

4) A rectangular city pool is 40 ft wide and has a perimeter of 230 ft. What is the length of the pool?

*l*

Formula for Perimeter: l x w x 2 = 230

230 – 40 x 2 = 150/2 = 75 ft

40 ft P = 230 ft

The length of the pool is 75 ft.

**ASSIGNMENT 2 – CIRCUMFERENCE**

Use the π button on your calculator. Include the proper units in your answer. Round each answer to one decimal place. SHOW YOUR WORK!

tunnel

1) Simon works for Surrey Water Department. He is ordering the liner for

a new overflow tunnel at the pumping station. The tunnel is shown to the right.

a) What is the radius of the tunnel? 24ft

Radius = diameter ÷ 2

= 24 ft ÷ 2

= 12 ft

b) What is the circumference of the tunnel? Show these 2 ways to calculate it.

Circumference = 2 × π × radius Circumference = π × diameter

= 2 × π × 12 ft = π × 24 ft

= 75.4 ft = 75.4 ft

The circumference of the tunnel liner should be 75.4 ft.

2) Calculate the circumference of the following circles. (2 decimal places)

a) b)

6.7 cm 18.5mm

Formula for Circumference: 3.14 x d Formula for Circumference: 3.14 x 2 x r

= 6.7 x 3.14 = 18.5 x 2 x 3.14

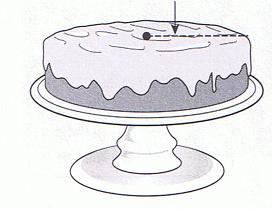
= 210.49 cm = 116.18 cm

3) A circular fountain has a radius of 10.6 m. What is its circumference? (one decimal place)

Formula for Circumference: 3.14 x r x 2

= 3.14 x 10.6 x 2 = 66.57 = 66.6 m

4) Michelle is a cake decorator. Her icing bag holds enough icing to make 22cm

a line 4.6 m long. She wants to draw circles around the top edges on some

cakes like seen here.

a) What is the circumference of this cake? (one decimal place)

Formula for Circumference: 3.14 x r x 2

= 3.14 x 22 x 2

= 138.16 cm

b) How many whole cakes like this one can Michelle draw these circles on with one full icing bag?

Since the circumference of the cake is 138.16 = 1.38 m (from cm to m)

Therefore, 4.60/1.38 = 3.33 = 3 cakes

With one icing bag, Michelle can draw these circles on 3 cakes.

5) The sides of a flower garden are shown in the diagram below. What is the perimeter of the flower garden? (one decimal place)

 4 m

Formula for Perimeter: 3.14 x 4 x 2

= 25.12 m

6) Mike sells tires. A customer told him the circumference of the wheel rim on his tires, but Mike needs the diameter to get the correct tire size. If the circumference of the customer’s rim is 66 in., what is the diameter? (closest whole number)

To find the diameter: Formula for circumference to diameter: 66/3.14

= 21.01 = 21 in. is the diameter.

**ASSIGNMENT 3 – Calculating Area of 2D Shapes**

For each of the following, name the shape and calculate its area. **Write the formula for your calculations as part of your answer.** DON’T FORGET THE UNITS!

1)

Formula for Area: b x h/2 = 5.7 x 6.2/2 = 17.67 cm^2

6.2 cm

5.7 cm

2)

Formula for Area: 3.14 x r^2

= 3.14 x 67 x 67 = 14102.61 m^2

67 m

3) 35 mm

Formula for Area: (a + b) x h/2

= 35 + 25 x 15/2 = 60/2 = 30 x 15

15 mm = 450 mm^2

25 mm

4) 17 in

Formula for Area: b x h

= 17 x 11 = 187 in^2

11 in

5)

Formula for Area: b x h

= 7.9 x 9.6 = 75.84 m^2

7.9 m

9.6 m

6) 5.3 ft

Formula for Area: s^2

= 5.3 x 5.3 = 28.09 ft^2

7)

Formula for Area: b x h/2

= 8.1 x 4.9/2 = 39.69/2 = 19.85 cm^2

8.1 cm

4.9 cm

8)

Formula for Area: b x h/2

= 3.5 x 7.7/2 = 26.95/2 = 13.48 cm^2

3.5 mm

7.7 mm

**ASSIGNMENT 4 – CALCULATING AREA OF COMPOSITE 2D FIGURES**

1) In the irregular figures below, draw lines to show one way to separate the figures into smaller regular shapes. You do not need to calculate the area of these figures.

2) Show four possible ways to divide the irregular figure below into regular shapes to be able to calculate its area. Then choose one method, show all your measurements, and calculate the total area.

4.7 m

4.5 m

2.9 m 2.3 m

5.9 m

5.3 m

10.5 m

Method B Sketches: Shape A: 4.7 x 2.9 + 3 = 4.7 x 5.9 m = 27.73 m

Shape B: 10.5 – 4.7 = 5.8 x 5.3- 2.3 = 5.8 x 3 m =+17.40 m

Shape C: 4.5 x 2.3 m =+10.35 m

= 55.48 m^2

3) Calculate the area of the following figures.

a)

Formula for Area: b x h

Shape A: 8 x 7 = 56 ft

8 ft Shape B: 6.5 + 8 = 14.5 x 5 =+ 72.5 ft

= 128.5 ft^2

7 ft

6.5 ft

5 ft

b) 6.8 cm

Formula for Area (Square): b x h

Formula for Area (Triangle): b x h/2

Shape A: 6.8 x 3.4 = 23.12 cm

3.4 cm Shape B: 8.6 – 6.8 = 1.8 x 3.4/2 = +3.06 cm

= 26.18 cm^2

8.6 cm

c)

Formula for Area (Circle half): 3.14 x 16/2

Formula for Area (Triangle): b x h/2

Shape A: 25 x 16/2 = 200 cm

Shape B: 3.14 x 16/2 =+25.12 cm

= 225.12 cm^2

25 cm

16 cm

**ASSIGNMENT 5 – MORE AREA**

1) Leonard is laying grass in a yard measuring 38 ft. by 20 ft. What is the yard’s area in square yards? Change the feet to yards first! (Round answers to two decimal places)

Convert ft. to yd. = 38/3 and 20/3 = 12.7 yd and 6.7 yd.

Formula for Area: b x h: 12.7 x 6.7 = 85.09 yd.

The yard’s area in square yards is 85.09 yd.^2

2) Suzanne needs to buy grass seed for the park. The park is 150 m by 210 m. Grass seed is sold by the square foot. How many square feet are in the park? Change the meters to feet first! (Round all answers to closest whole number)

Convert m. to ft. = 150/0.3048 and 210/0.3048 = 492.12 ft and 688.98 ft

Formula for Area: b x h: 492.12 x 688.98 = 339,060.84 square feet

There is 339,060.84 square feet in the park.

3) A room measures 12’8” by 10’9”. Carpeting costs $45.98/m2.

a) Change these measurements completely to feet, in decimal form. Round answers to 2 decimals.

Convert ft. and in. to ft: 12 feet, 8 inches x 10 feet, 9 inches

Convert ft to in 12 feet, 8 inches = 152 inches x 10 feet, 9 inches = 152 in x 129 in = 19608 in/12 = 1634 ft.

b) Change the measurements from a) to meters. Round all answers to 2 decimals.

Convert ft to m: 1634 x 0.3048 = 498.04 m

c) What is the area of this room in square meters? Round answer to 2 decimals.

Square Root of 498.04 = 22.32 square meters^2

d) What is the cost of the carpeting for this room?

22.32 x 45.98 = $1,026.27 is the cost for carpeting this room.