

Unit 5: Geometry

geo earth 

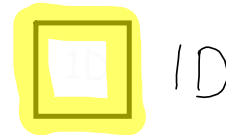
metry

measure



- Perimeter: The distance around a figure.

Units: m, cm Exponent of 1
 mm, km



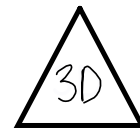
- Area: The number of square units **inside** a figure.

Units: m² Exponent of 2
 cm² km²



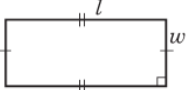
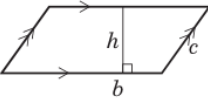
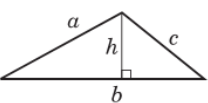
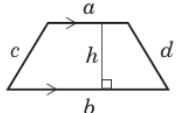
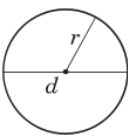
- Volume: The amount of space a figure occupies.

Units: cm³ Exponent of 3
 mL/L



Lesson 5.1: Perimeter and Area

Formula Sheet Grade 9 Applied

Geometric Figure	Perimeter	Area
Rectangle 	$P = l + l + w + w$ or $P = 2(l + w)$	$A = lw$
Parallelogram 	$P = b + b + c + c$ or $P = 2(b + c)$	$A = bh$
Triangle 	$P = a + b + c$	$A = \frac{bh}{2}$ or $A = \frac{1}{2}bh$
Trapezoid 	$P = a + b + c + d$	$A = \frac{(a + b)h}{2}$ or $A = \frac{1}{2}(a + b)h$
Circle 	$C = \pi d$ or $C = 2\pi r$	$A = \pi r^2$

I am your new BFF.

Don't lose me.

Use me for HW, quizzes, etc.

Don't lose me.

Write your name on me right now.

Don't lose me.

Please don't write anything else on me or you can't use me.

Don't lose me.

The EQAO exam includes me which must mean that I'm important.

And in case you didn't hear me...

Don't lose me!

What shape is not shown on this sheet?

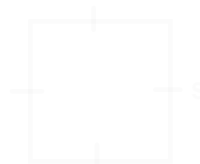
A square.

Why is it not shown?

Because a square is a rectangle.

WINTER/SPRING 2009

You may recall from grade 8:



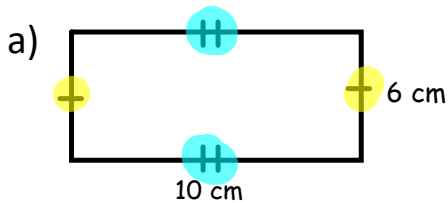
$$P = 4s$$

$$A = s^2$$

This information is also on page 4 of the textbook.

Lesson 5.1: Perimeter and Area

Ex. 1: Find the perimeter and area of each figure.



$$P = 6 + 6 + 10 + 10$$

$$P = 32 \text{ cm}$$

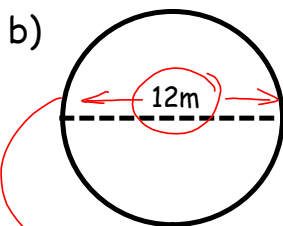
$$A = lw$$

$$= 10(6)$$

$$A = 60 \text{ cm}^2$$



D'OH!
I need a
calculator!



diameter = 12

radius $\Rightarrow \frac{1}{2}$ diameter
= 6.

$$C = \pi d$$

$$= \pi(12)$$

$$\approx 37.7 \text{ m}$$

radius

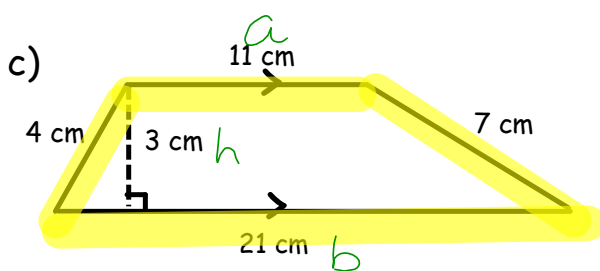
$$A = \pi r^2$$

$$= \pi(6)^2$$

$$= \pi(36)$$

$$\rightarrow \pi \times 6 \boxed{x^y} 2$$

$$\approx 113.1 \text{ m}^2$$



$$P = a + b + c + d$$

$$= 11 + 21 + 4 + 7$$

$$P = 43 \text{ cm}$$

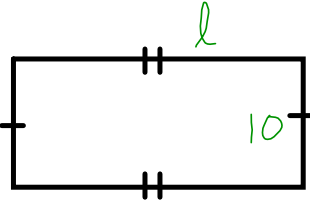
BEDMAS

$$A = \frac{(a+b)h}{2}$$

$$= \frac{(11+21)(3)}{2}$$

$$= \frac{(32)(3)}{2}$$

$$= 48 \text{ cm}^2$$

Ex. 2:  Given the perimeter of a rectangle is 48 cm and its width is 10cm, find the length. P

$$P = 2(l + w)$$

$$P = l + l + w + w$$

$$48 = \underline{l + l} + 10 + 10$$

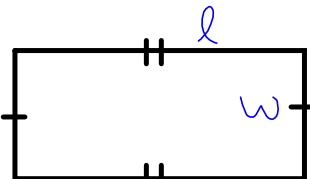
$$48 = 2l + 20$$

$$48 - 20 = 2l + 20 - 20$$

$$\frac{28}{2} = \frac{2l}{2}$$

$$14_{\text{cm}} = l$$

$$P = 14 + 14 + 10 + 10 = 48 \checkmark$$

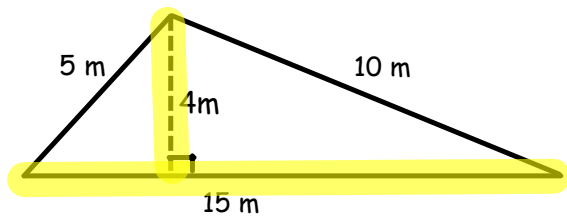
Ex. 3:  Given the area of a rectangle is 105 cm² and its length is 15 cm, find the width.

$$A = lw$$

$$\frac{105}{15} = \frac{15w}{15}$$

$$7_{\text{cm}} = w$$

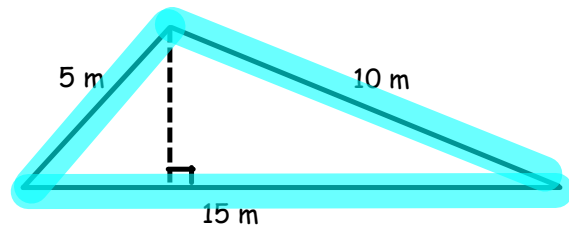
Ex. 4: Find the area and perimeter.



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

$$= \frac{15(4)}{2}$$

$$= 30 \text{ m}^2$$



$$P = a + b + c$$

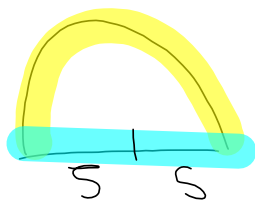
$$= 5 + 10 + 15$$

$$= 30 \text{ m}$$

Homework

page 5

1c, 2c, 3a, 5-10

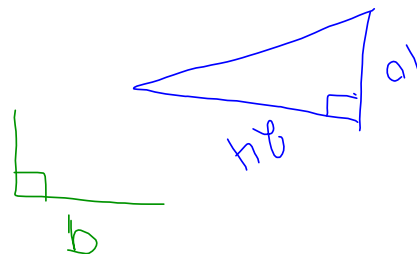


$$C = \frac{\pi d}{2}$$

$$= \frac{\pi(10)}{2}$$

$$= 15.7$$

$$P = 15.7 + 10$$





Homework
page 5
1c, 2c, 3a, 5-10