

**MINISTRY OF EDUCATION**  
**SECONDARY ENGAGEMENT PROGRAMME**  
**CHRISTMAS TERM 2020/2021**  
**GRADE 9**                      **SUBJECT: MATHEMATICS**

**WEEK 6**

**Lesson #1**

**Topic:** Measurement

**Sub-Topic:** Perimeter

**Objectives:**

Students will:

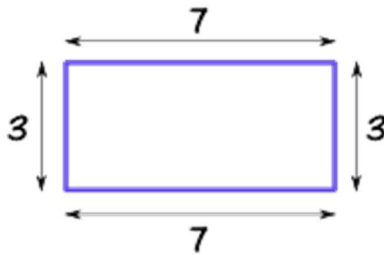
- ✓ Find perimeter for simple shapes;
- ✓ Calculate the circumference of a circle with ease.

**Content:**

*MEASUREMENTS - Perimeter*

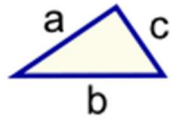
Perimeter is the distance around a plane shape.

Example: the perimeter of this rectangle is  $7+3+7+3 = 20$



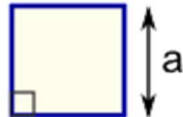
Finding perimeter for irregular shapes – you add the length or numbers outside or around only.

# Perimeter Formulas



Triangle

$$\text{Perimeter} = a + b + c$$



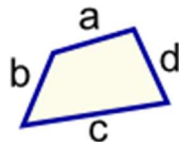
Square

$$\text{Perimeter} = 4 \times a$$

a = length of side

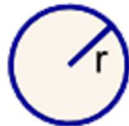
Rectangle

$$\text{Perimeter} = 2 \times (a + b)$$



Quadrilateral

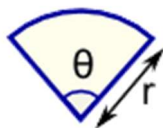
$$\text{Perimeter} = a + b + c + d$$



Circle

$$\text{Circumference} = 2\pi r$$

r = radius



Sector

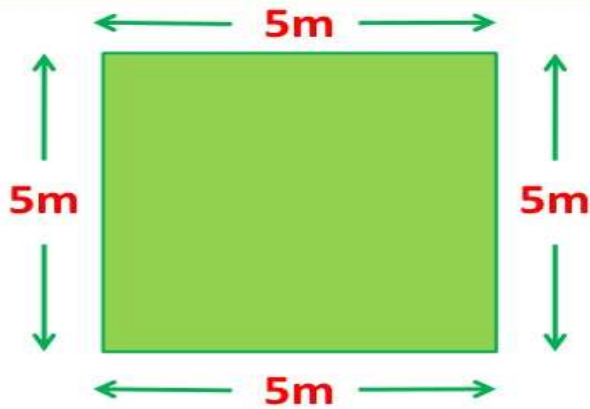
$$\text{Perimeter} = r(\theta + 2)$$

r = radius

$\theta$  = angle in **radians**

Example 2:

## Perimeter of a Square



$$\text{Perimeter} = 5 + 5 + 5 + 5$$
$$\text{Perimeter} = 20\text{m}$$

or

$$\text{Perimeter} = 5 \times 4$$
$$\text{Perimeter} = 20\text{m}$$

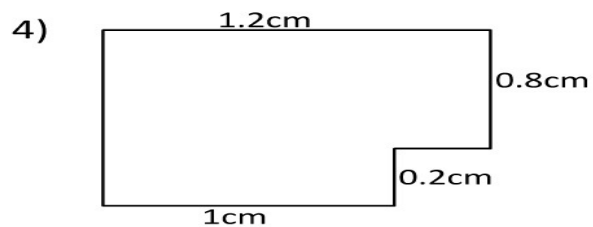
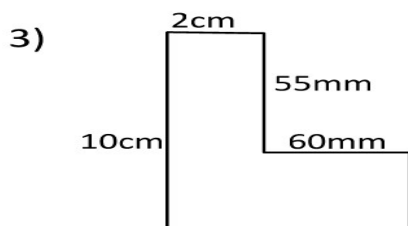
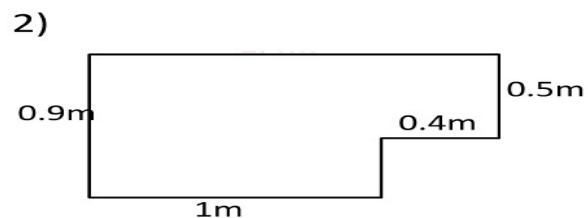
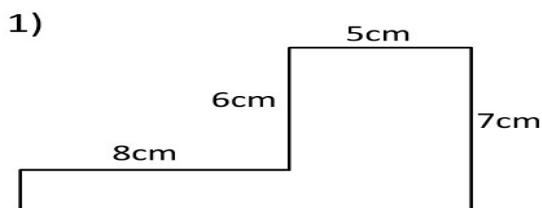
To calculate the perimeter of a square we add the lengths of each of the four sides. Because the sides of a square have identical lengths we can use the following formula:

$$\text{Perimeter of a Square} = \text{Length of One Side} \times 4$$

## Review

### Exercise: Lesson 6.1

Determine the perimeter of each of the following shapes below. Show all working.



## Reference

<https://www.mathsisfun.com/geometry/perimeter>

### SOLUTIONS

- 1) Perimeter = 40 cm
- 3) Perimeter = 36 cm
- 2) Perimeter = 4.6 m
- 4) Perimeter = 4.4 cm