

Year 7 Geometry Cheat Sheet

1. Angles

Key Terms:

- Acute Angle: Less than 90°
- Right Angle: Exactly 90° (\perp)
- Obtuse Angle: Between 90° and 180°
- Straight Angle: Exactly 180° (looks like a line)
- Reflex Angle: Between 180° and 360°

Angle Rules:

- Angles on a straight line add up to 180° .
- Angles around a point add up to 360° .
- Vertically opposite angles are equal.
- Parallel lines (with a transversal):
 - Corresponding angles are equal (F shape)
 - Alternate angles are equal (Z shape)
 - Co-interior angles add to 180° (C shape)

2. 2D Shapes & Their Properties

Types of Triangles:

- Equilateral: All sides & angles equal (60° each).
- Isosceles: Two equal sides & angles.
- Scalene: All sides & angles different.

Types of Quadrilaterals:

- Square: 4 equal sides, 4 right angles.
- Rectangle: Opposite sides equal, 4 right angles.
- Parallelogram: Opposite sides parallel & equal.
- Rhombus: 4 equal sides, opposite angles equal.
- Trapezium: One pair of parallel sides.

3. Perimeter & Area

Perimeter: Total distance around a shape

Square - $P = 4 \times \text{side}$

Rectangle - $P = 2 \times (\text{length} + \text{width})$

Triangle - $P = a + b + c$

Area: The space inside a shape

Square: $A = \text{side}^2$

Rectangle: $A = \text{length} \times \text{width}$

Triangle: $A = \frac{1}{2} \times \text{base} \times \text{height}$

Parallelogram: $A = \text{base} \times \text{height}$

Circle: $A = \pi r^2$

4. Circles

Diameter: Double the radius ($d = 2r$)

Circumference: Perimeter of a circle

- $C = \pi d$ or $2\pi r$

Area: $A = \pi r^2$

5. Geometry Tips & Tricks

Area vs Perimeter: Area is inside, perimeter is outside.

Missing Angles: Use known angles (e.g., triangles always add to 180°).

π (Pi): Approx 3.14 (or use the π button on your calculator).

6. Practice Problems (Answers Below)

Find the area of a rectangle with length 7cm and width 3cm.

A triangle has angles 50° and 60° . What is the third angle?

Calculate the circumference of a circle with radius 10cm (use $\pi=3.14$).

Answers:

21cm²

70°

62.8cm