### Fractions, decimals and percentages

- \( \frac{1}{2} = 50\% = 0.50 \)
- \( \frac{1}{3} = 33.33\% = 0.33 \)
- \( \frac{1}{4} = 25\% = 0.25 \)
- \( \frac{1}{5} = 20\% = 0.20 \)
- \( \frac{1}{8} = 12.5\% = 0.125 \)
- \( \frac{1}{10} = 10\% = 0.10 \)

### Measurement facts

- 1 cm = 10 mm
- 1 m = 100 cm
- 1 km = 1000 m
- 1 litre = 1000 ml
- 1 kg = 1000 g
- 1 tonne = 1000 kg
- 5 km = 3.1 miles
- 5 miles = 8 km

### Angles

- **Acute angle** - Less than 90 degrees

\[
\text{Angle}
\]

- **Right angle** - 90 degrees

\[
\text{Right Angle}
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- **Obtuse angle** - Bigger than 90 degrees but less than 180 degrees

\[
\text{Obtuse Angle}
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- **Reflex angle** - Bigger than 180 degrees but less than 360 degrees

\[
\text{Reflex Angle}
\]

### Order of Operations

1. **Brackets**
   2. **Indices**
   3. **Division** and **Multiplication**
   4. **Addition** and **Subtraction**

### Averages

- **Mean** - Add all the numbers up and divide by the total amount of numbers you have.

- **Mode** - The number that appears the most time. This can be more than one number appearing the same amount of times.

- **Range** - Subtract the smallest number from the biggest number.

- **Median** - The number in the middle when numbers are put in order from biggest to smallest.
**Circles**

Radius - Measure half of the circle from the centre to the outer edge.

Diameter - Measure the length from one side to the other.

Circumference = Diameter \( \times \pi \) (3.14)

Circumference = Radius \( \times 2 \times \pi \) (3.14)

**Factors**

Factors - Factors divide into a number exactly e.g. The factors of 10 are 1, 2, 5, and 10.

Prime Numbers - A number that is only divisible by itself and 1

Multiples - A number in the times table e.g. multiples of 4 are 8, 12, 16

Square numbers - When you multiply a number by itself e.g. \( 5^2 = 5 \times 5 = 25 \)

Cubed numbers - When you multiply a number by itself 3 times e.g. \( 5^3 = 5 \times 5 \times 5 = 125 \)

**Roman Numerals**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Value</th>
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<tbody>
<tr>
<td>I</td>
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<td>500</td>
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<td>M</td>
<td>1000</td>
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**Perimeter**

Perimeter = Add all the sides together

**Area of a quadrilateral** = Length \( \times \) width

**Area of a triangle** = Base \( \times \) height \( \div 2 \)

**Volume** = Length \( \times \) width \( \times \) height

**Fractions**

Adding and subtracting fractions:
When the denominator is the same, calculate using the numerators e.g. \( \frac{3}{5} + \frac{4}{5} = \frac{7}{5} \)

Multiplying fractions together:
Multiply the numerators together and the denominators together e.g. \( \frac{2}{3} \times \frac{4}{5} = \frac{8}{15} \)

Multiplying a fraction by a whole number:
Multiply the numerator by the whole number e.g. \( \frac{2}{3} \times 5 = \frac{10}{3} \)

Dividing fractions by a whole number:
Multiply the denominator by the dividing number e.g. \( \frac{2}{3} \div 5 = \frac{2}{15} \)

**Angles**

Angles within a triangle or on a straight line total 180 degrees.

Angles within a quadrilateral or around a point total 360 degrees.