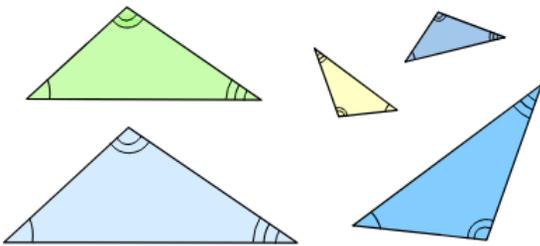




Similarity

1. **Shapes are similar** – If all the angles are the same (identical). Also the corresponding sides are in the same ratio. I.e there is a scale factor for the lengths of the sides from one shape to the other. These triangles are all similar: they are different sizes and rotations



Congruence

1. **Congruence** is when two shapes are identical. That means that all angles and side lengths are the same.
2. For triangles there are five possible conditions that can be given for congruence.
- **Side, Side Side (SSS)** Given the lengths of all three sides are the same
 - **Side, Angle, Side (SAS)** Given two sides and the angle between them are the same.
 - **Angle, Side, Angle (ASA)** Given two angles and the side between them.
 - **Angle, Angle, Side (AAS)** and means that we have two triangles where we know two angles and the non-included side are equal.
 - **Hypotenuse, (RHS)** For right angled triangles we have
 - the same length of hypotenuse and
 - the same length for one of the other sides

Percentages

1. **Reverse Percentages:** Find the percentage of the original amount, using the percentage given in the question, Convert this percentage to a decimal and divide the value given after the change to find the original amount. Look out for words like 'after' 'before' or 'original'

A jumper was priced at £48.60 after a 10% **reduction**. Find its original price (OP).

$100\% - 10\% = 90\% = 0.90$: percentage of OP

(note if the price was **increased** then the percentage of the OP $100\%+10\%$)

$$OP = \frac{£48.60}{0.90} = £ 54$$

Check - if the price was reduce the OP would be bigger and if the price was decrease the OP would be less.

Trigonometry

1. **Label the sides** – Opposite, Hypotenuse and Adjacent (If no information don't label it)
2. **Select the Triangle** – Given the sides that you have labelled select one of **SOH CAH TOA**.
3. **Calculate** – Covering up the one that you need use the triangle to calculate the value. If you are after an angle you need to use inverse sin cos or tan.

Note make sure that your calculator is set up for degrees i.e. has a D shown at the top.