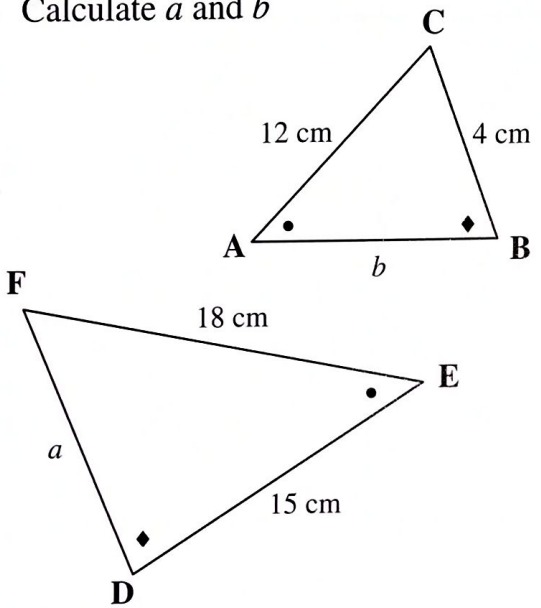


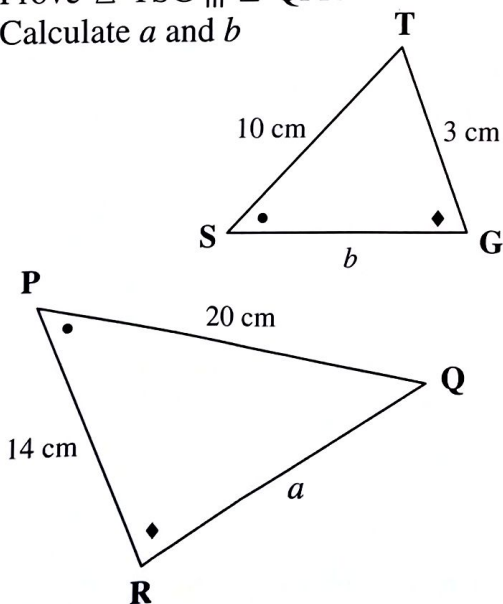
§ 7.14 SIMILAR TRIANGLES

- ✦ If two triangles are **equiangular**, their corresponding sides are in proportion.
- ✦ If two triangles have their **corresponding sides in proportion**, they are equiangular.
- ✦ 'Equiangular' means 'equal angles' which means that the three angles of the one triangle are equal in size to the three angles of the other triangle
- ✦ Triangles are **similar** if:
 - they are equiangular **OR**
 - the lengths of their corresponding sides are in proportion

EXAMPLE	SOLUTION
<p>1) Prove $\triangle ABC \parallel \triangle DEF$ 2) Calculate a and b</p> 	$\hat{A} = \hat{E}$ $\hat{B} = \hat{D}$ $\hat{C} = \hat{F} \text{ (angle sum of triangle)}$ $\triangle ABC \parallel \triangle EDF \text{ (AAA)}$ $\frac{AB}{ED} = \frac{AC}{EF} = \frac{BC}{DF}$ $\frac{b}{15} = \frac{12}{18} = \frac{4}{a}$ $\frac{b}{15} \times 15 = \frac{12}{18} \times 15$ $b = 10 \text{ cm}$ $\frac{12}{18} \times a \times \frac{18}{12} = \frac{4}{a} \times a \times \frac{18}{12}$ $a = 6 \text{ cm}$

Exercise 7.14

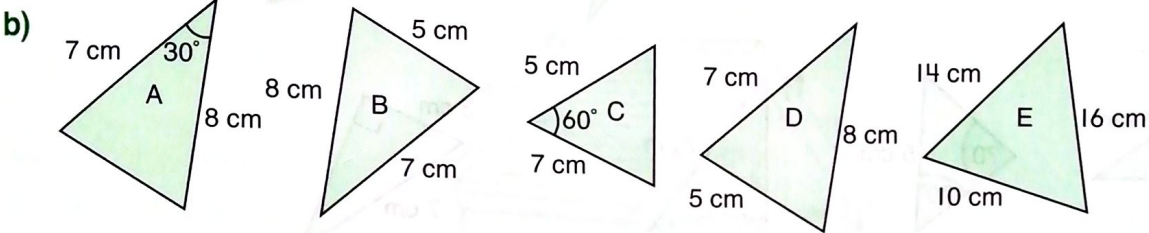
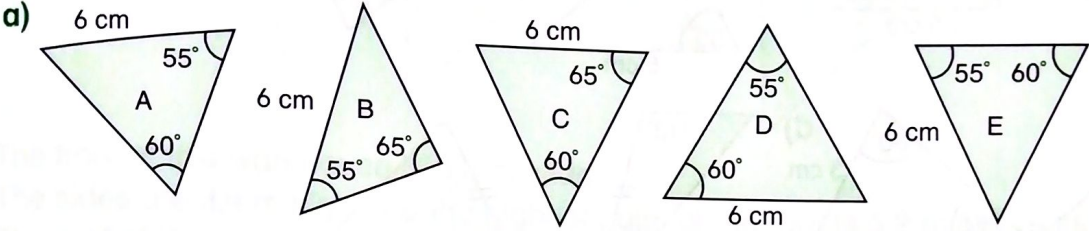
- 1) Prove $\triangle TSG \parallel \triangle QPR$
- 2) Calculate a and b



Activity 3.4 Geometry of 2D shapes – triangles

40 minutes

1. Identify the two triangles that are congruent to each other.
Give a reason for your answer.



2. In each of the cases, name the two triangles that are similar.

