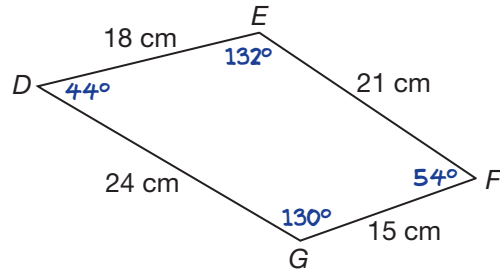
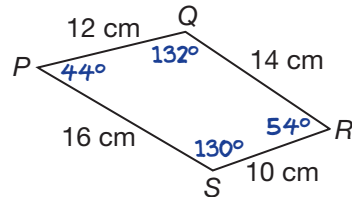


Chapter Review

1. Sage is using flat stones like these to build a walkway.



- a) Measure and label the corresponding angles on the polygons.
 b) Complete the chart for the given measures of corresponding sides of polygons $PQRS$ and $DEFG$.

Sides of $PQRS$	$PQ = \underline{12}$ cm	$QR = \underline{14}$ cm	$RS = \underline{10}$ cm	$SP = \underline{16}$ cm
Corresponding sides of $DEFG$	$DE = 18$ cm	$EF = 21$ cm	$FG = 15$ cm	$GD = 24$ cm

- c) Calculate ratios for corresponding sides of $DEFG$ and $PQRS$.

$$\frac{DE}{PQ} = \frac{18 \text{ cm}}{\underline{12} \text{ cm}}, \text{ or } \underline{1.5} \quad \frac{FG}{RS} = \frac{\underline{15} \text{ cm}}{\underline{10} \text{ cm}}, \text{ or } \underline{1.5}$$

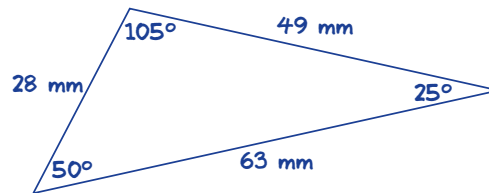
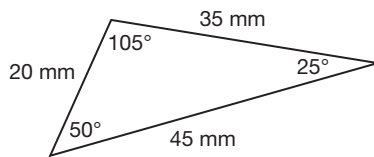
$$\frac{EF}{QR} = \frac{\underline{21} \text{ cm}}{\underline{14} \text{ cm}}, \text{ or } \underline{1.5} \quad \frac{GD}{SP} = \frac{\underline{24} \text{ cm}}{\underline{16} \text{ cm}}, \text{ or } \underline{1.5}$$

- d) Are the stones similar? How do you know?
e.g., Yes, $DEFG \sim PQRS$. The corresponding angles are equal and the ratios of corresponding sides are equal.
- e) What is the scale factor for using $PQRS$ to calculate lengths for $DEFG$? 1.5

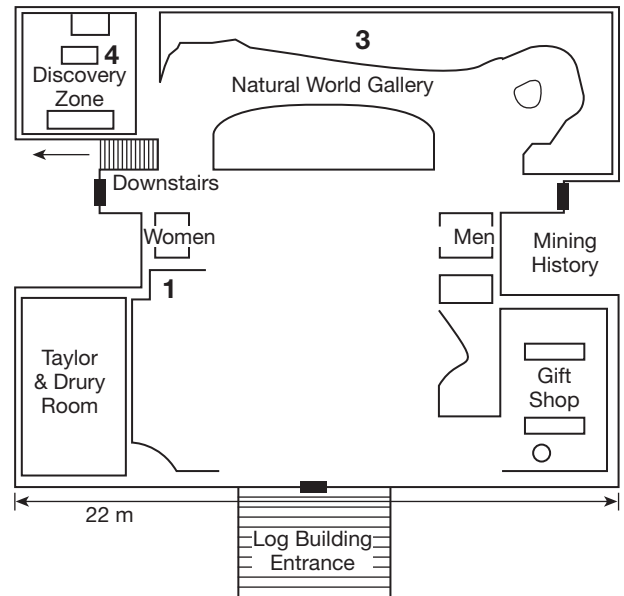
2. Are all equilateral triangles similar? Explain how you know.

e.g., Yes. The sum of the angles in any triangle is 180° . An equilateral triangle has three equal angles, so each angle is $180^\circ \div 3 = 60^\circ$. Triangles with three pairs of equal corresponding angles are similar.

3. Draw a similar triangle using a scale factor of 140%. Label the angle measures and side lengths in your triangle.



4. This is a floor plan for the MacBride Museum of Yukon History in Whitehorse. Cyr is planning to take a group from a daycare to the Discovery Zone and wants to know its size.

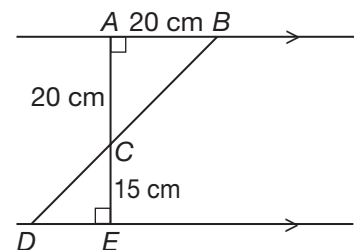


- a) How many centimetres on the map equal 22 m? 8.0 cm
- b) What actual distance would 1 cm on the map represent?
8.0 cm represents 22 m, so
 $22 \text{ m} \div 8.0 = 2.75 \text{ m}$
 1 cm on the map represents 2.75 m.

The actual length and width are about 5.1 m and about 5.4 m.

- c) What are the actual length and width of the Discovery Zone?
 e.g., On the floor plan, it is 1.5 cm by 1.6 cm; actual measurements are about $1.5 \times 2.75 \text{ m} = 4.125 \text{ m}$ and $1.6 \times 2.75 \text{ m} = 4.4 \text{ m}$.

5. a) How can you tell that $\triangle ABC \sim \triangle EDC$?
 e.g., $\angle DCE = \angle BCA$ because they're opposite angles.
 $\angle CAB = \angle CED$ because they're 90° . So $\angle EDC$ must equal $\angle ABC$; so the triangles are similar.



- b) How long is side ED ?
 e.g., Sides CA and CE are corresponding sides and the ratio is $\frac{20}{15}$, so the ratio for other corresponding sides must be $\frac{20}{15}$. Side $AB = 20$ and it corresponds to side ED , so ED must be 15 cm long.