Construction
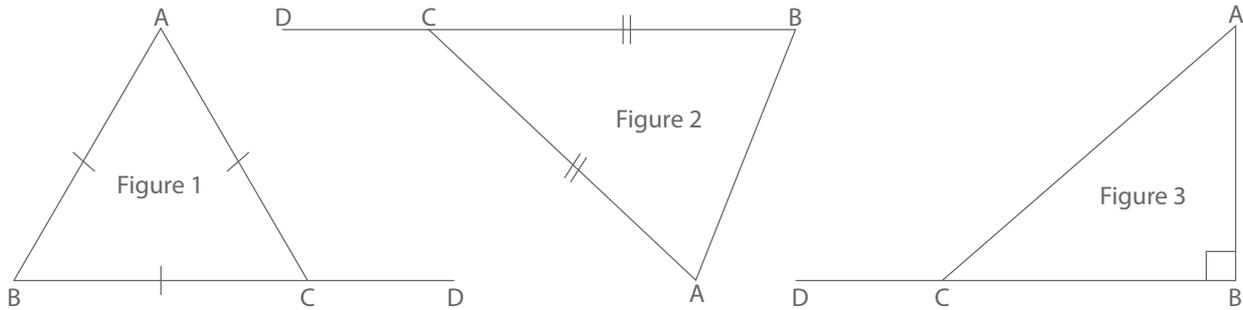## Interior and exterior angles of triangles

1. Use the following figures to complete the table below.

Figure 1

Figure 2

Figure 3

What to do	Figure 1	Figure 2	Figure 3
Measure the size of Â.			
Measure the size of B̂.			
Measure the size of AĈB.			
Measure the size of AĈD.			

2. Answer the following by using the information in the table above.

a) Describe the relationship between the sizes of Â, B̂ and AĈB in symbols.

b) Describe the relationship between the sizes of Â, B̂ and AĈB in words.

c) Describe the relationship between the sizes of Â, B̂ and AĈD in symbols.

d) Describe the relationship between the sizes of Â, B̂ and AĈD in words.

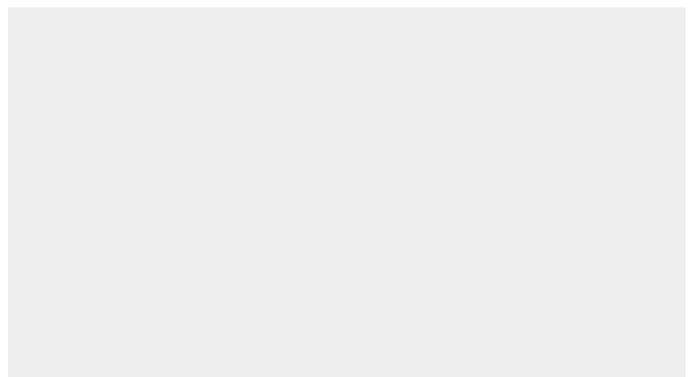**3.** Complete the following construction without using a protractor.

a) Construct △PQR with PQ = 50 mm, Q̂ = 60° and QR = 50 mm.

b) Extend QR to S so that RS = 50 mm.

c) Write down the size of PR̂S.

d) Explain why SP ⊥ PQ.

Let's Practise

Construction
Congruent triangles

1. If △KLM ≡ △XYZ, write down a substitute for the following.

a) K̂ ⬚ **b)** LM ⬚ **c)** Ŷ ⬚

d) XZ ⬚ **e)** M̂ ⬚ **f)** KL ⬚

2. Explain the following conditions for congruent triangles in words.

a) (S; S; S)

b) (S; ∠; S)

c) (∠; ∠; S)

d) (90°; H; S)

3. Construct △KLM and △PQR with the following features.

a) L̂ = 60°; M̂ = 30°; KL = 50 mm

b) Q̂ = 60°; R̂ = 30°; PR = 50 mm

4. Are the triangles in question 3 congruent? Explain your answer.

5. Construct △ABC and △DEF with the following features.

a) B̂ = 90°; AB = 30 mm; BC = 40 mm

b) DE = 30 mm; EF = 40 mm; DF = 50 mm

6. Are the triangles in question 5 congruent? Explain your answer.