

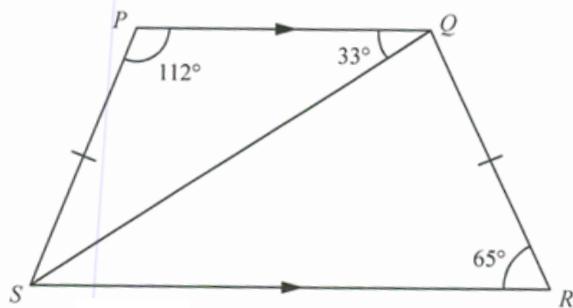
Class Test 4

Answer all questions. Show your working clearly.



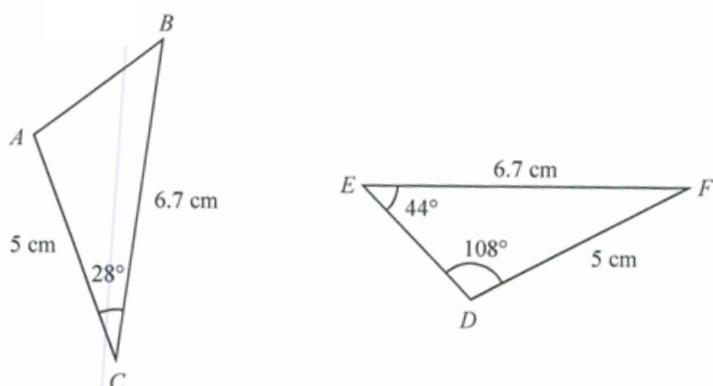
1. Are the following pairs of triangles congruent? Explain your answers.

(a)



[2]

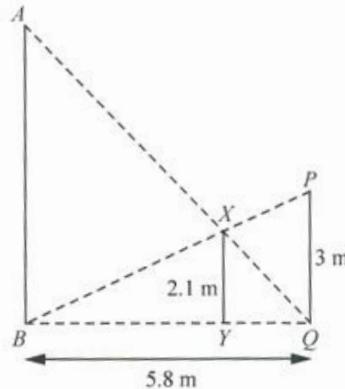
(b)



[2]

Chapter 7 • Congruence and Similarity

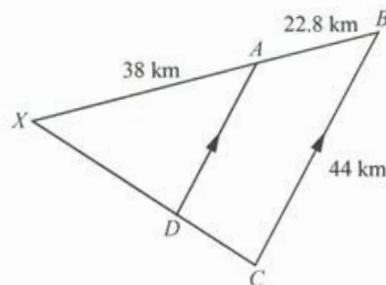
2. In the diagram below, there are two walls, AB and PQ , which are 5.8 m apart. A pole, XY , measuring 2.1 m tall, is placed between the walls. A, X and Q are on the same line and B, X and P are on the same line. The wall, PQ , is 3 m tall.



$\triangle XYQ$ and $\triangle ABQ$ are similar triangles, and $\triangle BXY$ and $\triangle BPQ$ are also similar triangles.

(a) Find the distance between the wall, PQ , and the pole. [2]
 (b) Hence, find the height of the wall, AB . [1]

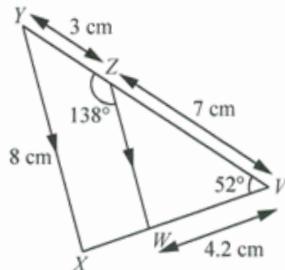
3. The diagram below shows towns A, B, C and D . X is a gas station. Town A is 38 km from the gas station and 22.8 km from town B . Town B is 44 km from town C .



$\triangle ADX$ and $\triangle BCX$ are similar triangles.

(a) Find the distance between town A and town D . [2]
 (b) Town C is 52.8 km from the gas station. Find the distance between town C and town D . [1]

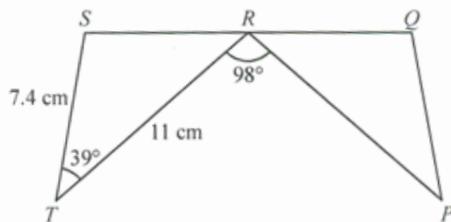
4.



$\triangle VXY$ and $\triangle VWZ$ are similar triangles. Find

- (a) $\angle VXY$, [2]
- (b) WZ , [2]
- (c) WX . [1]

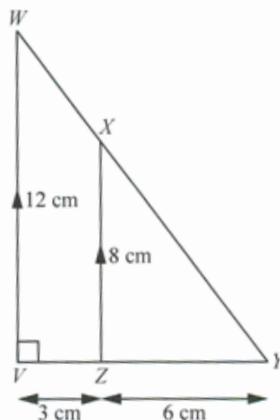
5.



$\triangle PQR$ and $\triangle TSR$ are congruent triangles and QS is a straight line. Find

- (a) $\angle SRT$, [1]
- (b) $\angle PQR$, [1]
- (c) PQ . [1]

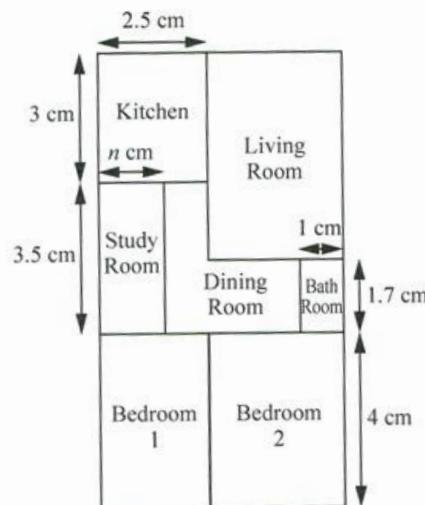
6.



Is $\triangle XYZ$ similar to $\triangle WYV$? Explain your answer. [2]

Chapter 7 • Congruence and Similarity

7. The diagram below shows a floor plan of an apartment drawn with a scale of 1 : 120. The actual area of the study room is 7.56 m^2 .



(a) Find the value of n . [2]

(b) Find the actual area of the dining room, in m^2 . [2]

(c) Find the actual area of the entire apartment, in m^2 . [2]

8. A rectangular field $WXYZ$ has the dimensions 350 m by 240 m.

(a) Draw the field using the scale 1 : 5000 where WX represent the length of the field. [2]

(b) A cone is placed in the centre of the field at point M . Mark out M . [1]

(c) Find the actual distance of XM , in m. [1]