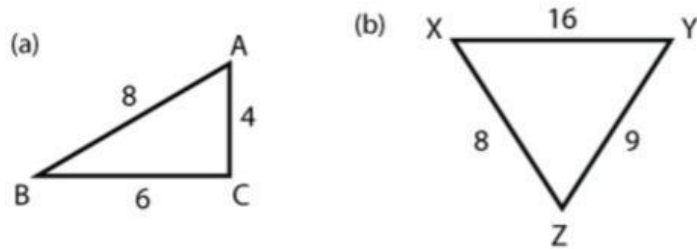


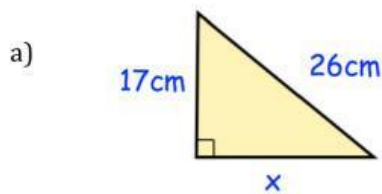
Name: _____ Class: _____ Date: _____

Task 1

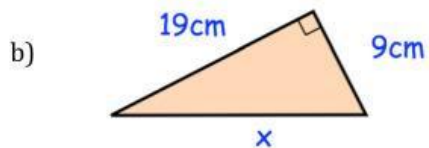
Q1) Order the angles from the smallest to the largest:



Q2) Find the range of possible values for x:



_____ < x < _____



_____ < x < _____

Task 2

An engineer in Abu Dhabi is designing a triangular support frame for a shade structure.

He is choosing between two designs:

Design A

- AB: 6 m, BC: 8 m, CD:13 m

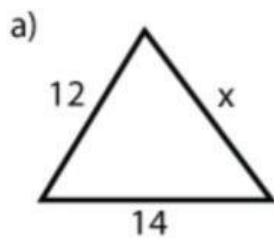
Design B

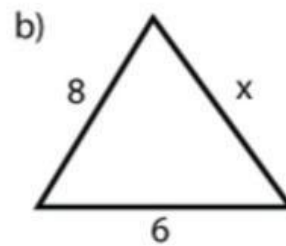
- AB:6 m, BC:8 m, CD:10 m

? Question:

1. Which design can actually form a triangle?
2. For the valid design, **identify and justify which angle is the largest.** (Opposite to which side?)

Q3: Find the range of possible values for x:



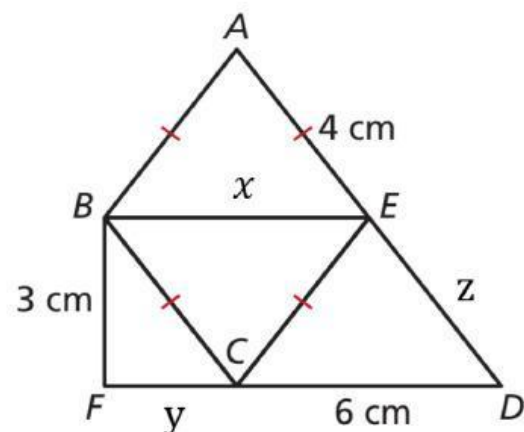


Task 3

Q1) Nakia is an architect designing a house with a peaked roof. She is trying to decide what the limitations are on her design. If AB is 8 feet and $\triangle ABC$ will be isosceles ($AB=BC$), describe the possible lengths for AC (Range of values for x)



Q2) Describe the values that are possible for the lengths of x, y, z .



Task 4: Extension

Given: $\triangle ABC \cong \triangle DEF$

Prove: $d + e > c$

