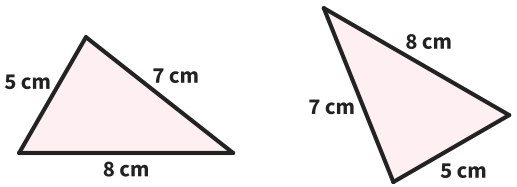
# Congruent triangles

ANSWERS

**1** The triangles are congruent. Circle the condition.





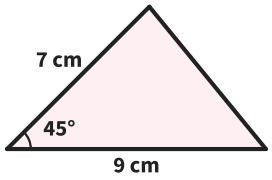


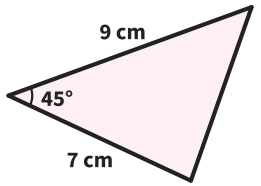
Sides given 3

Angles given 0

(SSS) SAS ASA RHS

**2** The triangles are congruent. Circle the condition.



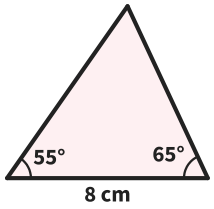



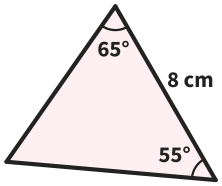

Sides given 2

Angles given 1

SSS (SAS) ASA RHS

**3** The triangles are congruent. Circle the condition.



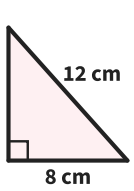



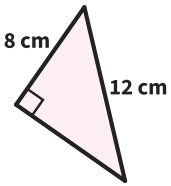

Sides given 1

Angles given 2

SSS SAS (ASA) RHS

**4** The triangles are congruent. Circle the condition.



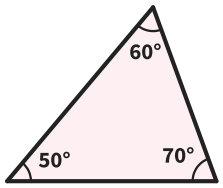

Sides given 2

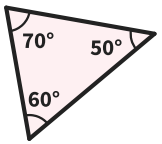
Angles given 1

SSS SAS ASA (RHS)

**5** Are the triangles congruent? Give a reason.

Notice the change!

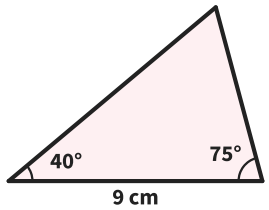


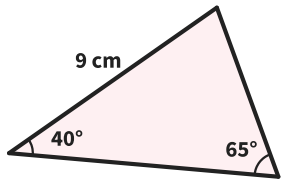




Yes (No)

Reason: No, AAA is not enough.

**6** Find the third angle of the second triangle. Are the triangles congruent? Give a reason.



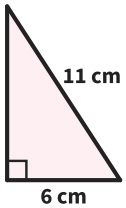



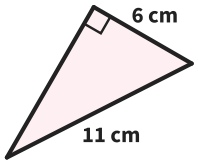

180° – 40° – 65° = 75°

(Yes) No

Reason: Yes, ASA

**7** Ben says the triangles are congruent by SAS. Explain why Ben is wrong. Give the right condition.

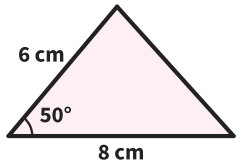


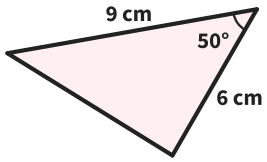




the right angle is not between the sides

Condition: RHS

**8** Are the triangles congruent? Give a reason.



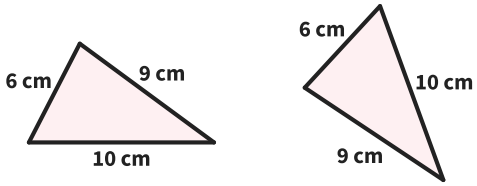

Yes (No)

Reason: No, 8 cm is not 9 cm

# Congruent triangles *further practice*

ANSWERS

**9** Are the triangles congruent? Give a reason.





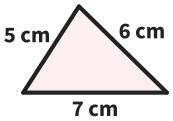


*10 cm, 9 cm and 6 cm*

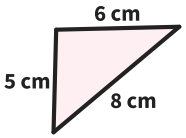
*in both*

**Answer** *Yes, SSS*

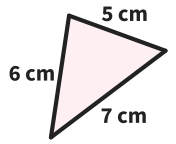
**10** Which two of these triangles are congruent? Give a reason.




A




B

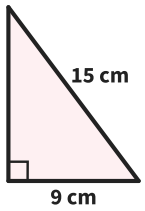


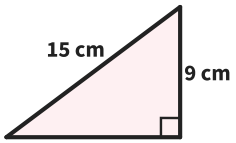

C

*both have 5 cm, 6 cm and 7 cm*

**Answer** *A and C, SSS*

**11** Two set squares each have a right angle, a longest side of 15 cm and another side of 9 cm. Are they congruent? Give a reason.



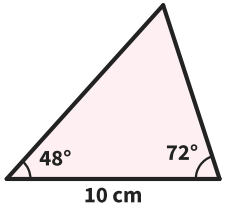



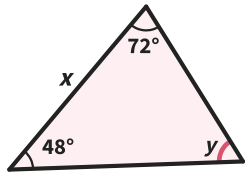

*right angle, hypotenuse*

*and one other side*

**Answer** *Yes, RHS*

**12** Two triangular flags are congruent. Find $x$ and $y$.



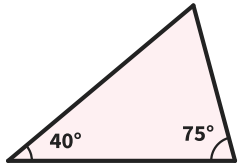



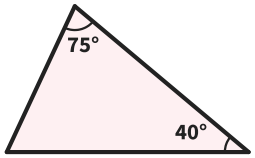

*x is between 48° and 72°, so 10 cm*

*y = 180° − 48° − 72°*

**Answer** *x = 10 cm, y = 60°*

**13** Each triangle has angles of 40° and 75°. What else would you need to know to show they are congruent by ASA?



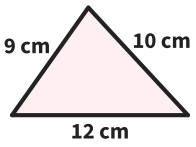



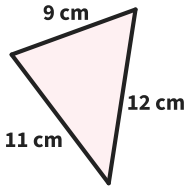

*the side between the 40°*

*and 75° angles is the same*

**Answer** *the side between them*

**14** Two triangular patches for a quilt are cut out. Are the patches congruent? Give a reason.




*12 cm and 9 cm match, but*

*10 cm and 11 cm do not*

**Answer** *No*

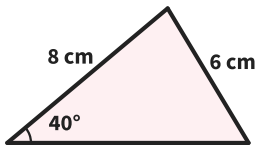
**15** Two triangles both have angles of 30°, 65° and 85°. Lily says they must be congruent. Is she right? Explain.

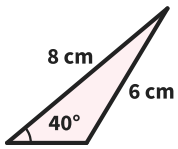
*AAA is not enough: one triangle*

*can be an enlargement of the other*

**Answer** *No*

**16** Both triangles have a 40° angle, an 8 cm side and a 6 cm side. Kofi says they are congruent by SAS. Is Kofi right? Explain.




*the 40° angle is not*

*between the two sides*

**Answer** *No*