



**THIRD SPACE
LEARNING**

Congruent Triangles Worksheet

Geometry

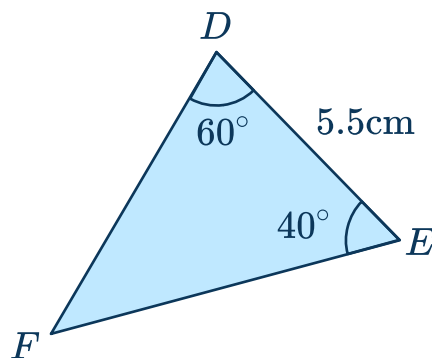
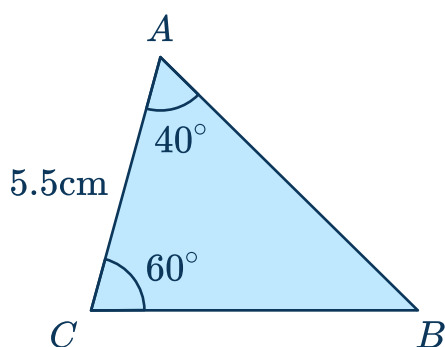
Grades 9 to 12

Questions

Name:

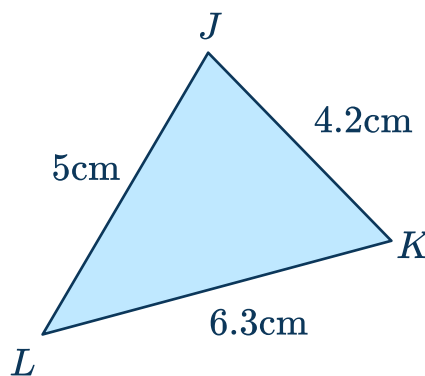
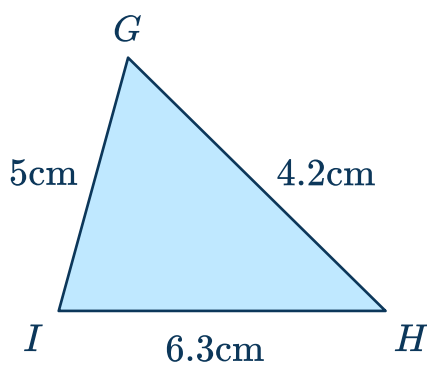
Date:

- 1 Prove that Triangle ABC is congruent to Triangle DEF.



Answer

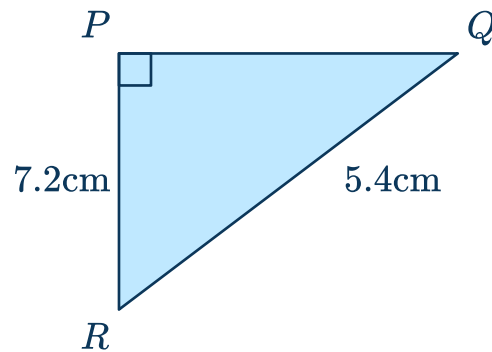
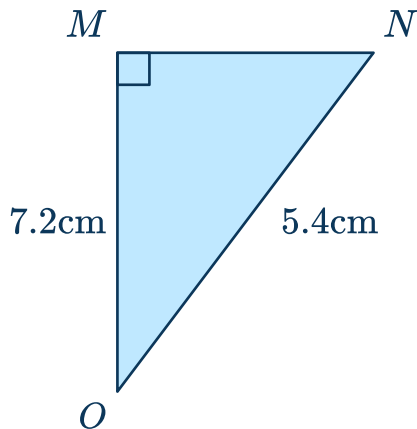
- 2 Prove that Triangle GHI is congruent to Triangle JKL.



Answer

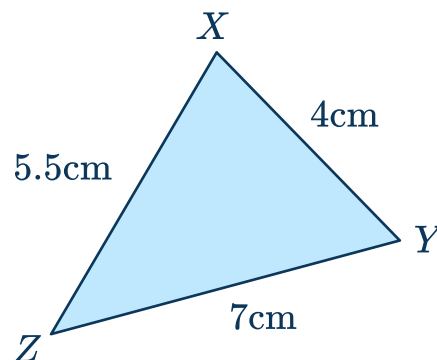
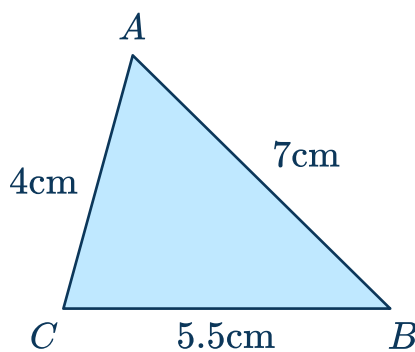
Congruent Triangles Worksheet | Grades 9 to 12

- 3 Given Triangle MNO and Triangle PQR with $\angle M = \angle P = 90^\circ$, $MO = PR = 7.2$ cm, and $NO = QR = 5.4$ cm, prove congruence.



Answer

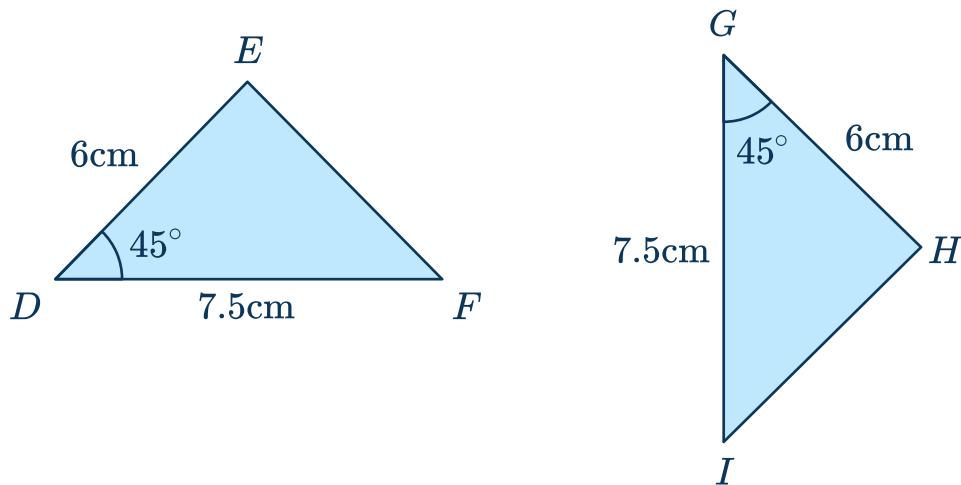
- 4 Prove that Triangle ABC is congruent to Triangle XYZ.



Answer

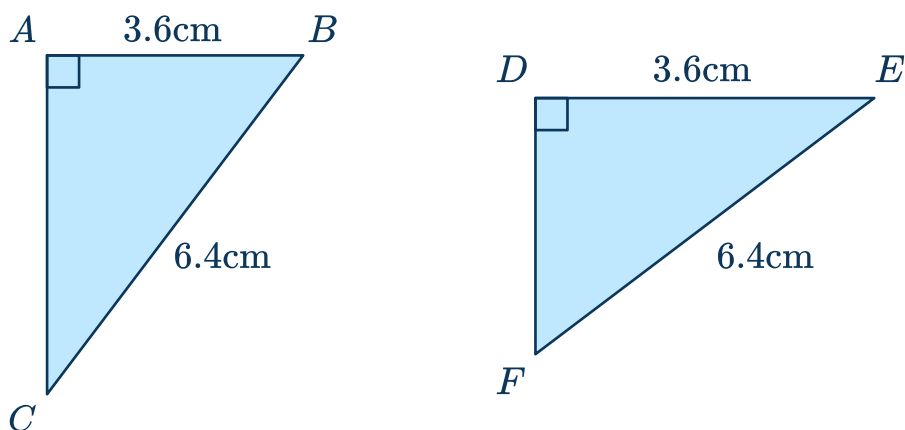
Congruent Triangles Worksheet | Grades 9 to 12

- 5 Given Triangle DEF and Triangle GHI with $\angle D = \angle G = 45^\circ$, $DE = GH = 6$ cm, and $DF = GI = 7.5$ cm, prove congruence.



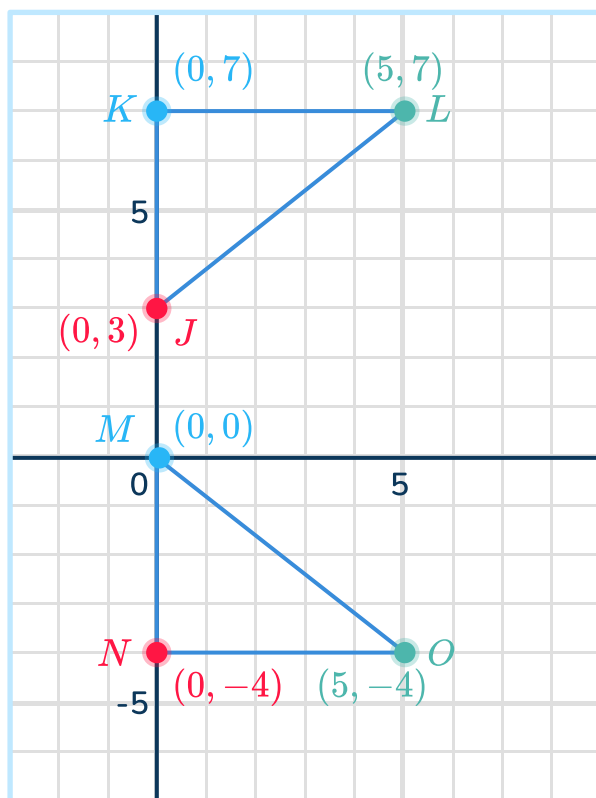
Answer

- 6 Prove that Triangle ABC is congruent to Triangle DEF.



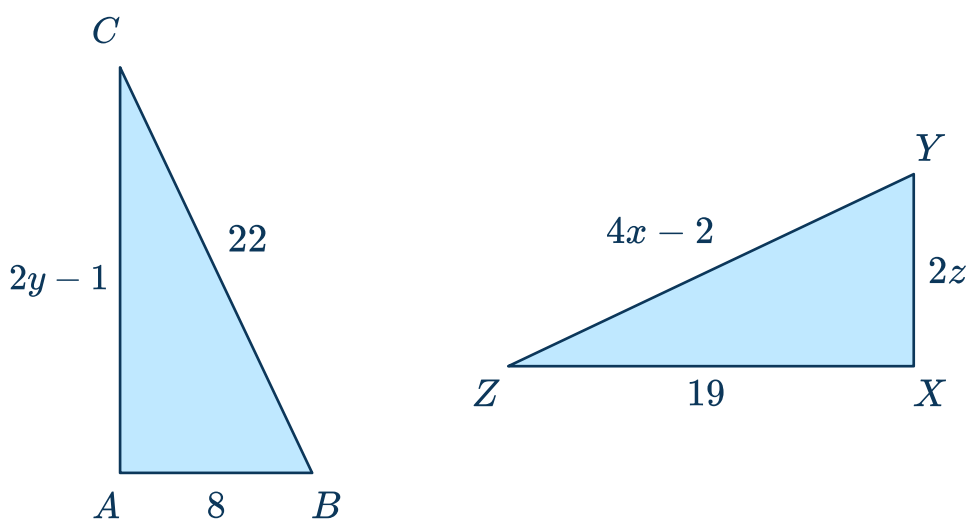
Answer

- 7 Prove that Triangle JKL is congruent to Triangle MNO.



Answer

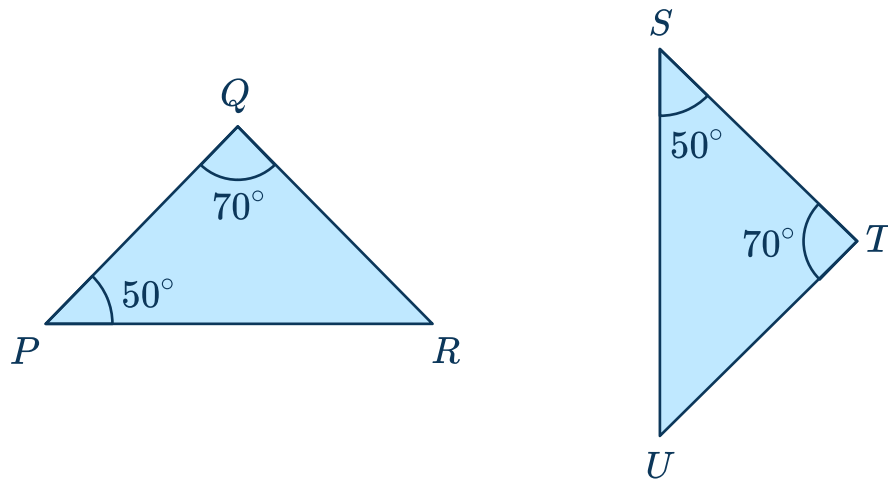
- 8 Triangle ABC is congruent to Triangle XYZ. Find the value of x , y and z .



Answer

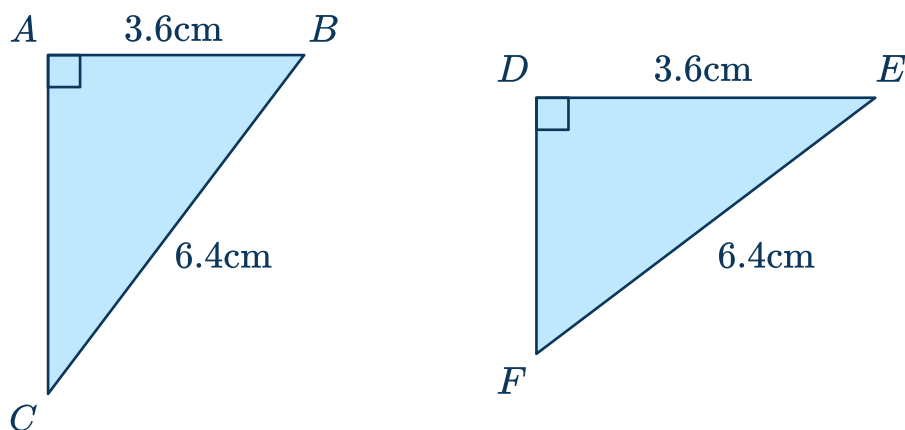
Congruent Triangles Worksheet | Grades 9 to 12

- 9 Given Triangle PQR and Triangle STU with $\angle P = \angle S = 50^\circ$, $\angle Q = \angle T = 70^\circ$, can you prove they are congruent?



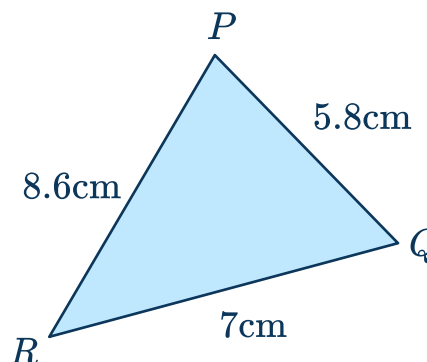
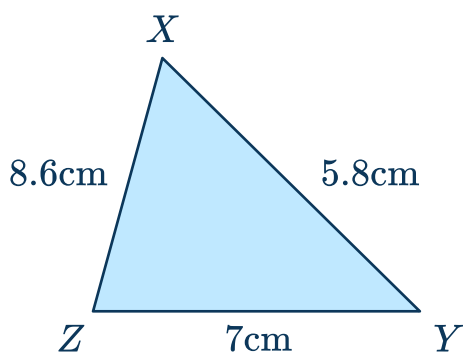
Answer

- 10 Prove that Triangle ABC is congruent to Triangle DEF.



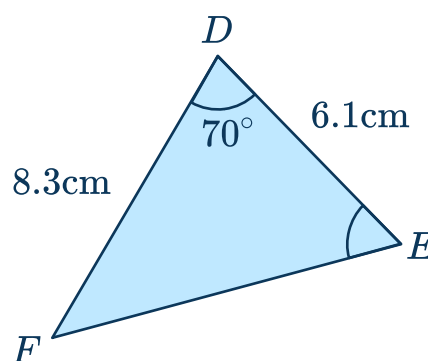
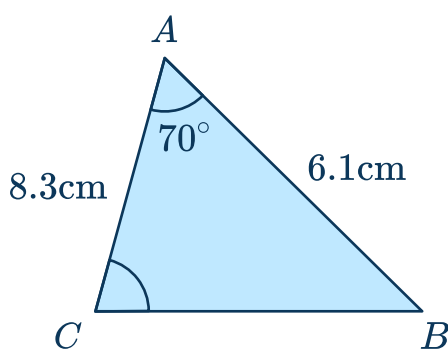
Answer

- 11 Prove that Triangle XYZ is congruent to Triangle PQR.



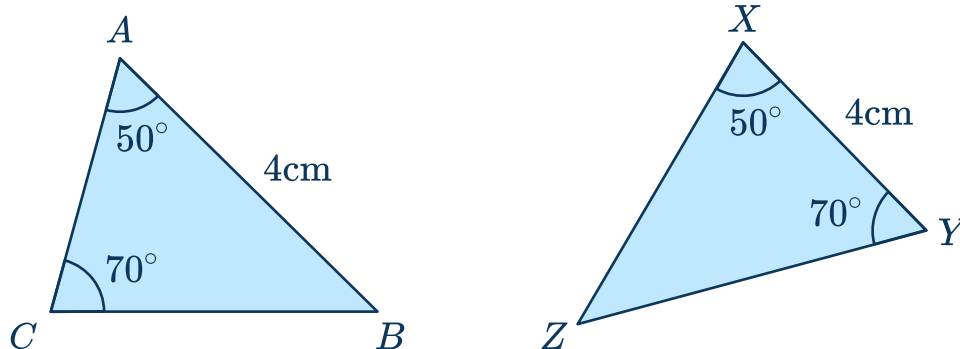
Answer

- 12 Given Triangle ABC and Triangle DEF with $AB = DE = 6.1$ cm, $AC = DF = 8.3$ cm, and $\angle A = \angle D = 70^\circ$, prove congruence.



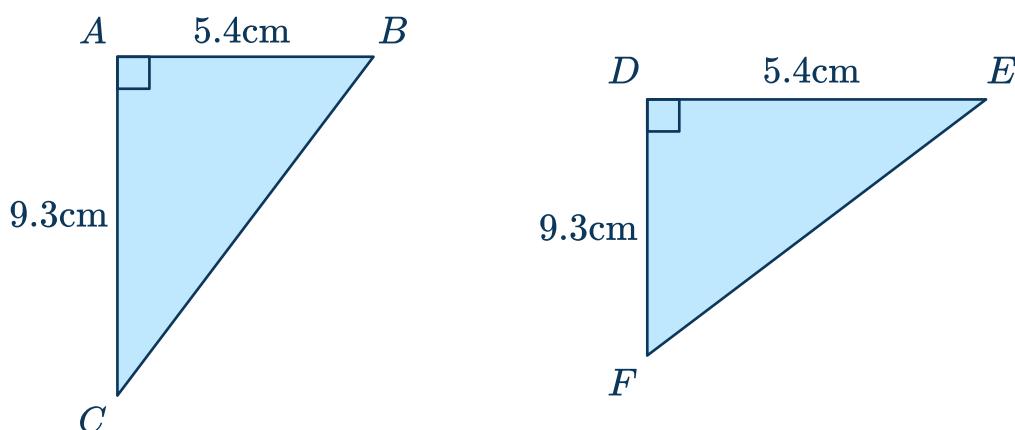
Answer

- 13 Prove that Triangle ABC is congruent to Triangle XYZ.



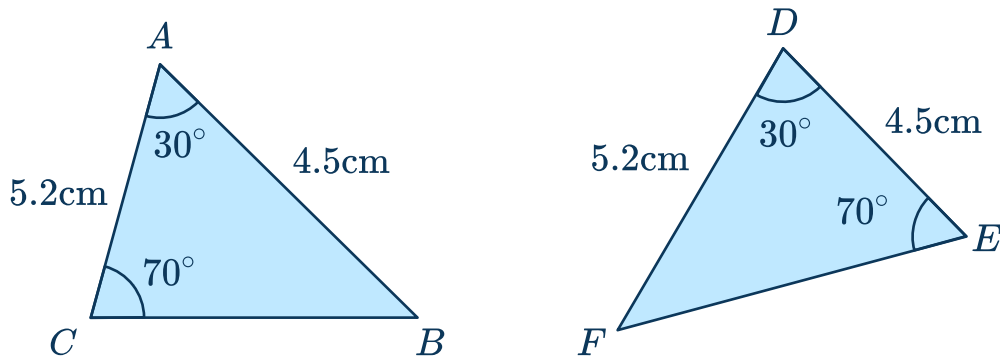
Answer

- 14 Given two right triangles ABC and DEF with hypotenuses $AC = DF = 9.3$ cm and legs $AB = DE = 5.4$ cm, prove congruence.



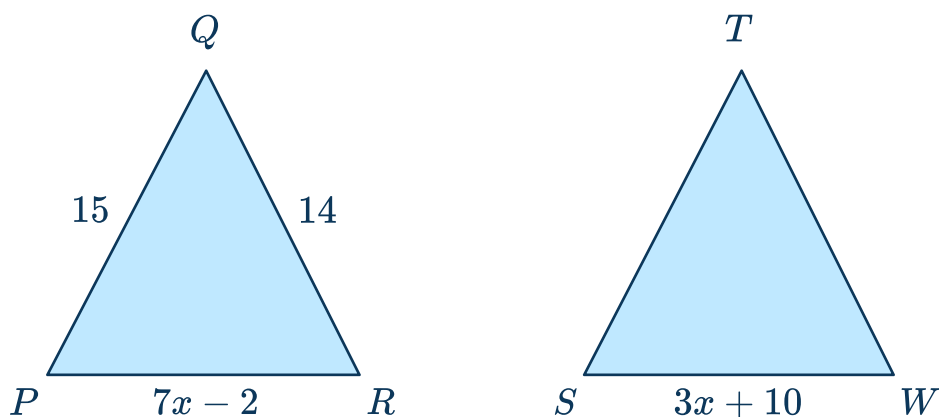
Answer

- 15 Prove that Triangle ABC is congruent to Triangle DEF.



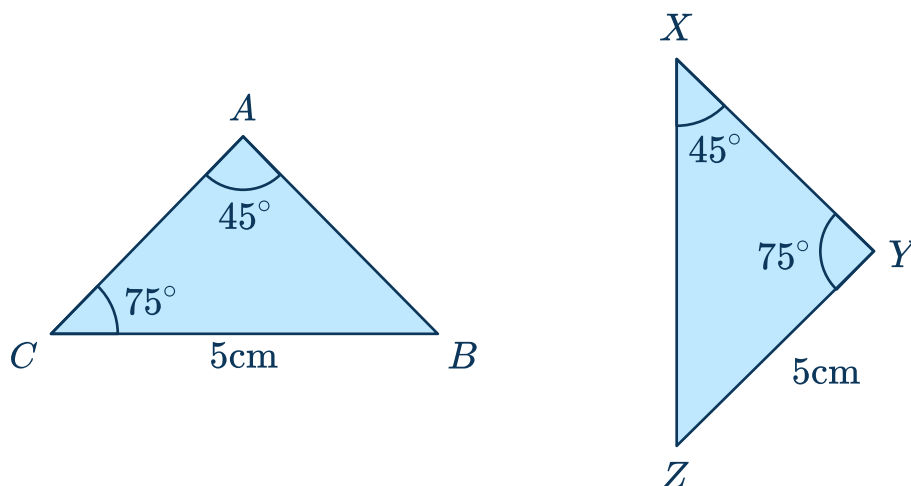
Answer

- 16 Triangle PQR is congruent to Triangle STW. Find x .



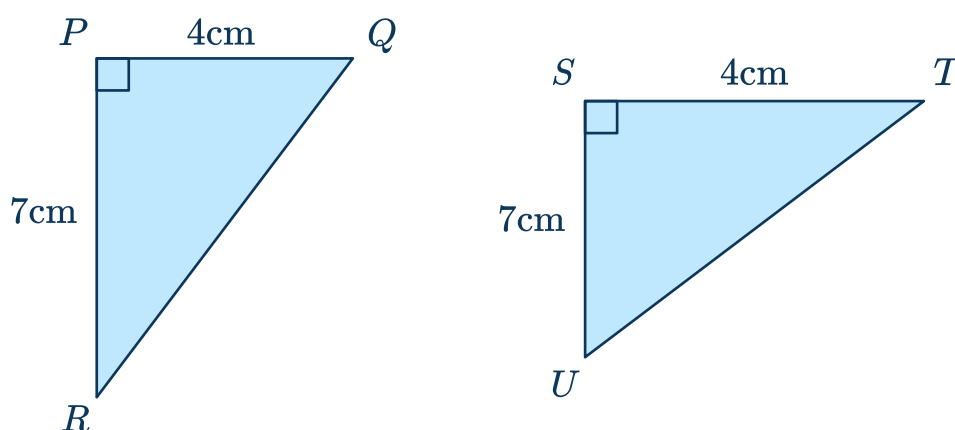
Answer

- 17 Prove that Triangle ABC is congruent to Triangle XYZ.



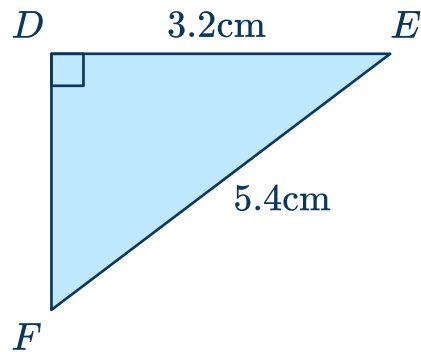
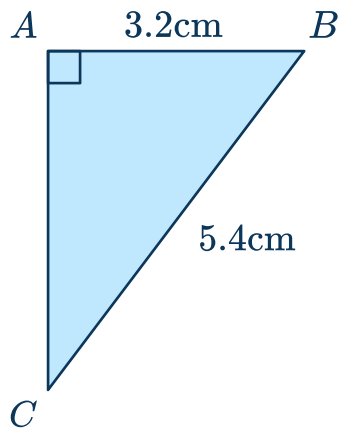
Answer

- 18 Given two triangles PQR and STU with $PQ = ST = 4$ cm, $PR = SU = 7$ cm, and $\angle P = \angle S = 90^\circ$, prove congruence.



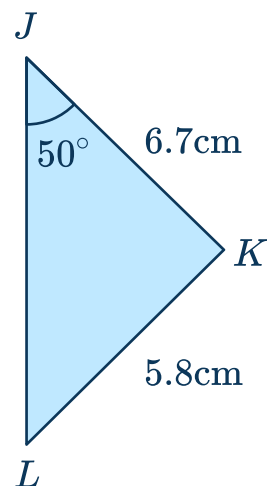
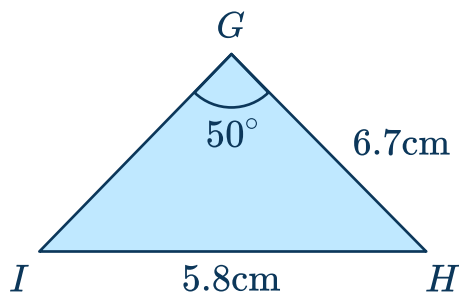
Answer

19 Prove that Triangle ABC is congruent to Triangle DEF.



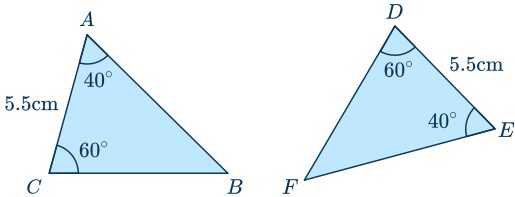
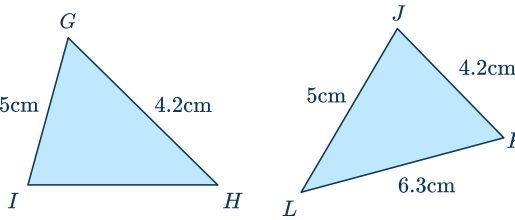
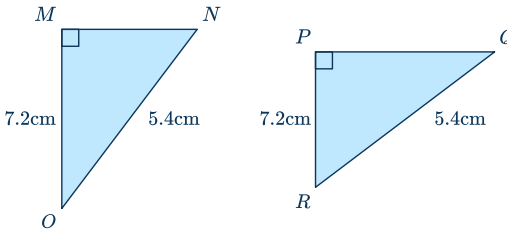
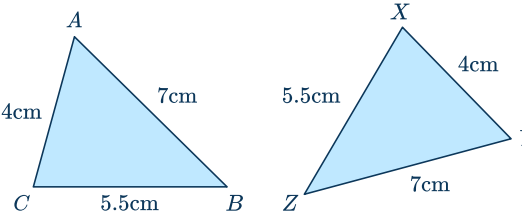
Answer

20 Prove that Triangle GHI is congruent to Triangle JKL.

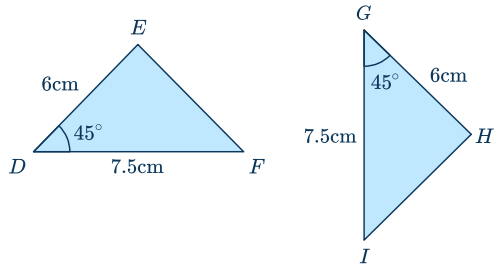
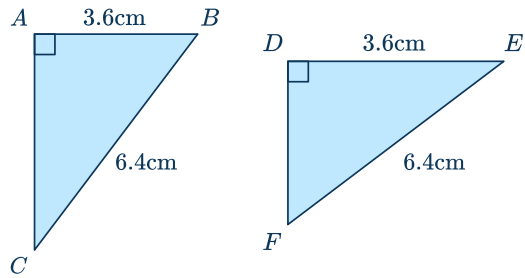
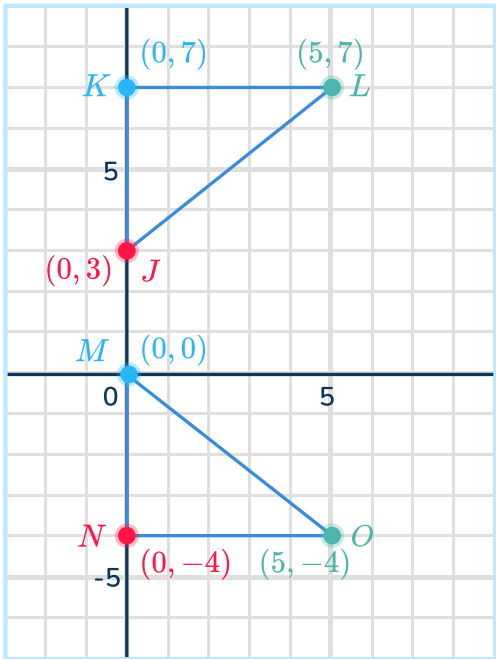


Answer

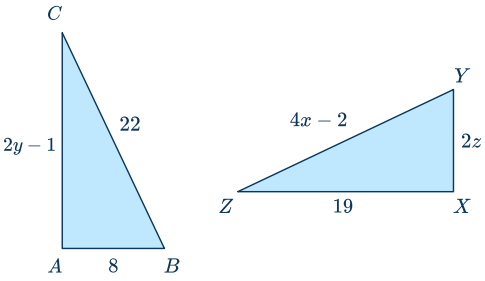
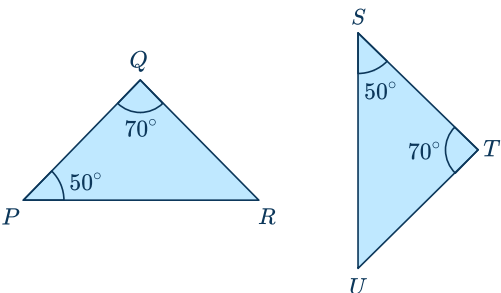
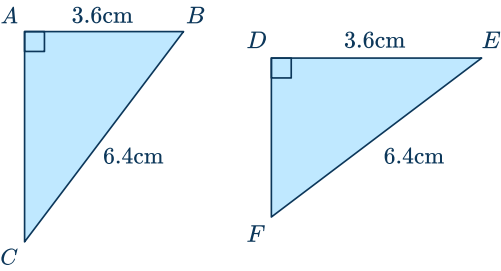
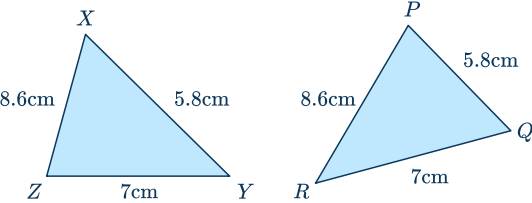
Answers

Question number	Question	Answers	Standard
1	<p>Prove that Triangle ABC is congruent to Triangle DEF.</p> 	<p>Triangles are congruent by ASA because two angles and the included side are equal.</p>	HSG-SRT.B.5
2	<p>Prove that Triangle GHI is congruent to Triangle JKL.</p> 	<p>Triangles are congruent by SSS since all three pairs of sides are equal.</p>	HSG-SRT.B.5
3	<p>Given Triangle MNO and Triangle PQR with $\angle M = \angle P = 90^\circ$, $MO = PR = 7.2$ cm, and $NO = QR = 5.4$ cm, prove congruence.</p> 	<p>Triangles are congruent by HL (Hypotenuse-Leg) as they are right triangles with equal hypotenuse and one leg.</p>	HSG-SRT.B.5
4	<p>Prove that Triangle ABC is congruent to Triangle XYZ.</p> 	<p>Triangles are congruent by SSS as all three pairs of sides are equal.</p>	HSG-SRT.B.5

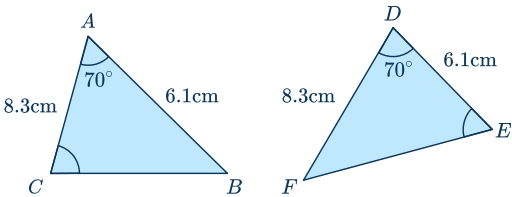
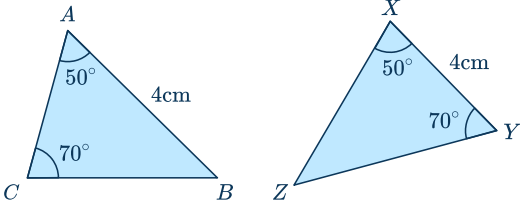
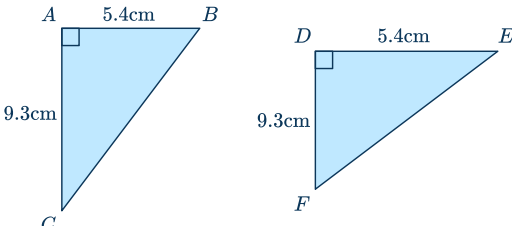
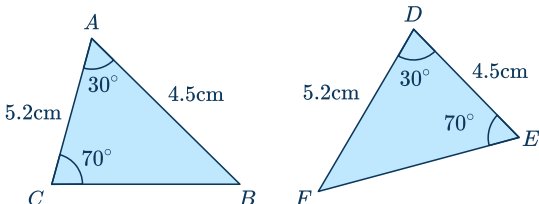
Congruent Triangles Worksheet | Grades 9 to 12 | Answers

Question number	Question	Answers	Standard
5	<p>Given Triangle DEF and Triangle GHI with $\angle D = \angle G = 45^\circ$, $DE = GH = 6$ cm, and $DF = GI = 7.5$ cm, prove congruence.</p> 	<p>Triangles are congruent by SAS because two sides and the included angle are equal.</p>	HSG-SRT.B.5
6	<p>Prove that Triangle ABC is congruent to Triangle DEF.</p> 	<p>Triangles are congruent by HL as they are right triangles with equal hypotenuse and one leg.</p>	HSG-SRT.B.5
7	<p>Prove that Triangle JKL is congruent to Triangle MNO.</p> 	<p> $KJ = 4$ units $MN = 4$ units $KJ = MN$ $KL = 5$ units $NO = 5$ units $KL = NO$ $\text{Angle } K \text{ is } 90^\circ$ $\text{Angle } N \text{ is } 90^\circ$ $\text{Angle } K = \text{Angle } N$ So the triangle JKL is congruent to triangle MNO by SAS </p>	HSG-SRT.B.5

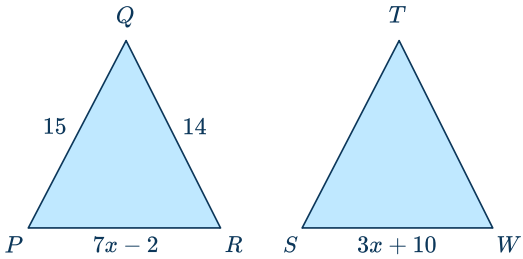
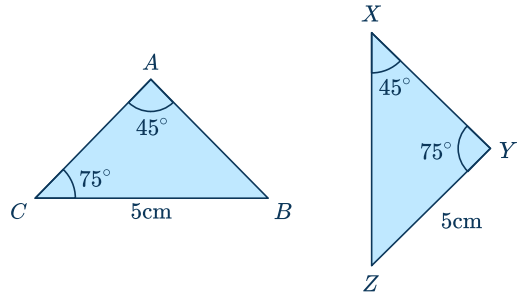
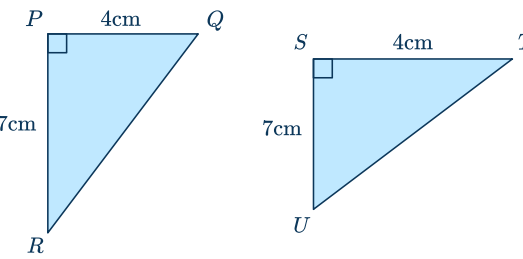
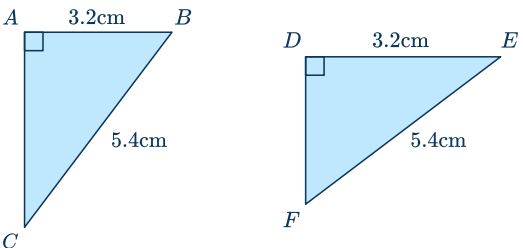
Congruent Triangles Worksheet | Grades 9 to 12 | Answers

Question number	Question	Answers	Standard
8	<p>Triangle ABC is congruent to Triangle XYZ. Find the value of x, y and z.</p> 	$4x - 2 = 22$ $x = 6$ $2y - 1 = 19$ $y = 10$ $2z = 8$ $z = 4$	HSG-SRT.B.5
9	<p>Given Triangle PQR and Triangle STU with $\angle P = \angle S = 50^\circ$, $\angle Q = \angle T = 70^\circ$, can you prove they are congruent?</p> 	No you cannot prove that they are congruent. They may be congruent but you don't know that for sure because just knowing the angle measurements is not enough to prove congruence.	HSG-SRT.B.5
10	<p>Prove that Triangle ABC is congruent to Triangle DEF.</p> 	Triangles are congruent by SAS as two pairs of corresponding angles are equal and the two triangles share a side. So through the reflexive property $DF = BA$.	HSG-SRT.B.5
11	<p>Prove that Triangle XYZ is congruent to Triangle PQR.</p> 	Triangles are congruent by SSS since all three sides are equal.	HSG-SRT.B.5

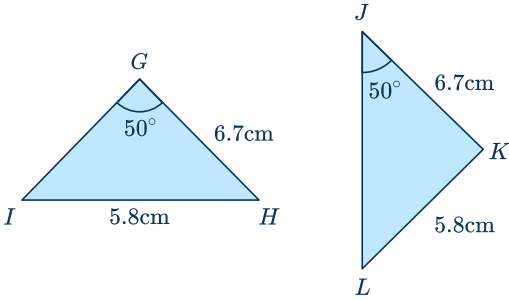
Congruent Triangles Worksheet | Grades 9 to 12 | Answers

Question number	Question	Answers	Standard
12	<p>Given Triangle ABC and Triangle DEF with $AB = DE = 6.1$ cm, $AC = DF = 8.3$ cm, and $\angle A = \angle D = 70^\circ$, prove congruence.</p> 	Triangles are congruent by SAS because two sides and the included angle are equal.	HSG-SRT.B.5
13	<p>Prove that Triangle ABC is congruent to Triangle XYZ.</p> 	Triangles are congruent by ASA as two angles and the included side are equal.	HSG-SRT.B.5
14	<p>Given two right triangles ABC and DEF with hypotenuses $AC = DF = 9.3$ cm and legs $AB = DE = 5.4$ cm, prove congruence.</p> 	Triangles are congruent by HL as they are right triangles with equal hypotenuse and one leg.	HSG-SRT.B.5
15	<p>Prove that Triangle ABC is congruent to Triangle DEF.</p> 	Triangles are congruent by SAS as two sides and the included angle are equal.	HSG-SRT.B.5

Congruent Triangles Worksheet | Grades 9 to 12 | Answers

Question number	Question	Answers	Standard
16	<p>Triangle PQR is congruent to Triangle STW. Find x.</p> 	$7x - 2 = 3x + 10$ $4x = 12$ $x = 3$	HSG-SRT.B.5
17	<p>Prove that Triangle ABC is congruent to Triangle XYZ.</p> 	Triangles are congruent by ASA as two angles and the included side are equal.	HSG-SRT.B.5
18	<p>Given two triangles PQR and STU with $PQ = ST = 4$ cm, $PR = SU = 7$ cm, and $\angle P = \angle S = 90^\circ$, prove congruence.</p> 	Triangles are congruent by SAS as two sides and the included angle are equal.	HSG-SRT.B.5
19	<p>Prove that Triangle ABC is congruent to Triangle DEF.</p> 	Triangles are congruent by HL as they are right triangles with equal hypotenuse and one leg.	HSG-SRT.B.5

Congruent Triangles Worksheet | Grades 9 to 12 | Answers




Question number	Question	Answers	Standard
20	<p>Prove that Triangle GHI is congruent to Triangle JKL.</p> 	<p>Triangles are congruent by SAS as two sides and the included angle are equal.</p>	HSG-SRT.B.5

Do you have a group of students who need a boost in math?

Each student could receive a personalized lesson every week from our specialist one-on-one math tutors.

- ✓ Differentiated instruction for each student
- ✓ Aligned to your state's standard
- ✓ Scaffolded learning to close gaps

Speak to us

-  thirdspacelearning.com/us/
-  (929) 298-4593
-  hello@thirdspacelearning.com



THIRD SPACE
LEARNING