



Name: _____ **Date:** _____ **Score:** _____ / 28

- 1** Here are the side lengths of four triangles.

Triangle A: 5 cm, 7 cm, 9 cm

Triangle B: 5 cm, 7 cm, 8 cm

Triangle C: 9 cm, 7 cm, 5 cm

Triangle D: 5 cm, 6 cm, 9 cm

Write down the letters of the two triangles that are congruent to each other.

(1 mark)

Answer _____

- 2** Lena says, "If two triangles have the same three angles, they must be congruent."

a. Write down the four conditions that do show two triangles are congruent.

b. Explain why Lena is wrong.

(2 marks)

Answer _____

- 3** In triangles PQR and XYZ,

$PQ = XY = 6 \text{ cm}$

$\text{angle PQR} = \text{angle XYZ} = 40^\circ$

$QR = YZ = 8 \text{ cm}$

The two triangles are congruent.

Write down the congruence condition that shows the triangles are congruent.

(1 mark)

Answer _____

- 4 The diagram shows triangle PQR and triangle XYZ.
Are the two triangles congruent? Give a reason for your answer.

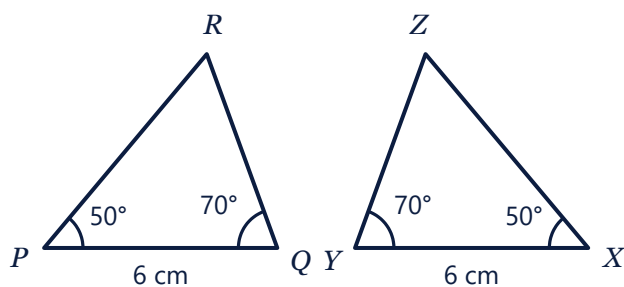


Diagram NOT accurately drawn

(2 marks)

Answer _____

- 5 Triangle ABC is congruent to triangle DEF.
A corresponds to D, B corresponds to E and C corresponds to F.
AB = 7 cm, BC = 9 cm, angle ABC = 48° and angle BCA = 71°.
- Write down the length of EF.
 - Write down the size of angle DEF.
 - Work out the size of angle EDF.

(3 marks)

Answer _____

- 6 Rectangle A measures 4 cm by 6 cm.
Rectangle B is mathematically similar to rectangle A. The shorter side of rectangle B is 10 cm.
- Work out the scale factor of the enlargement from A to B.
 - Work out the length of the longer side of rectangle B.

(2 marks)

Answer _____

- 7 Triangle ABC is similar to triangle PQR.
AB corresponds to PQ, and BC corresponds to QR.
AB = 6 cm, PQ = 9 cm and BC = 8 cm.
Work out the length of QR.

(2 marks)

Answer _____

- 8 Triangles ABC and PQR are mathematically similar.
Angle ABC = angle PQR and angle BCA = angle QRP.
a. Work out the length of QR.
b. Work out the length of AC.

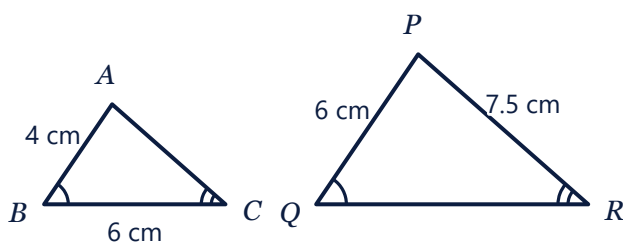


Diagram NOT accurately drawn

(3 marks)

Answer _____

9

Jamal is 1.6 m tall. At 4 pm his shadow is 2 m long.

At the same time, a flagpole next to him casts a shadow 9 m long.

The sun makes similar triangles with Jamal and with the flagpole, as shown in the diagram.

Work out the height of the flagpole.

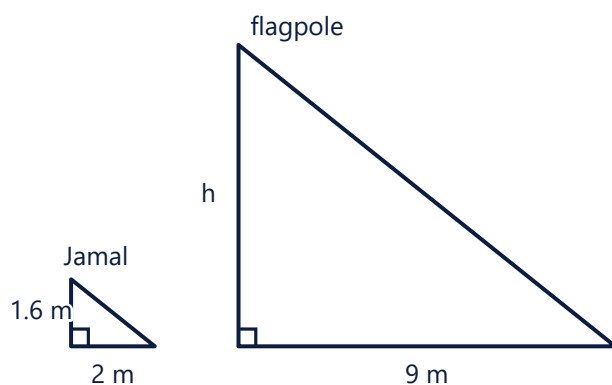


Diagram NOT accurately drawn

(3 marks)

Answer _____

10 ABCD is a kite in which $AB = AD$ and $CB = CD$.

The diagonal AC is drawn.

Prove that triangle ABC is congruent to triangle ADC.

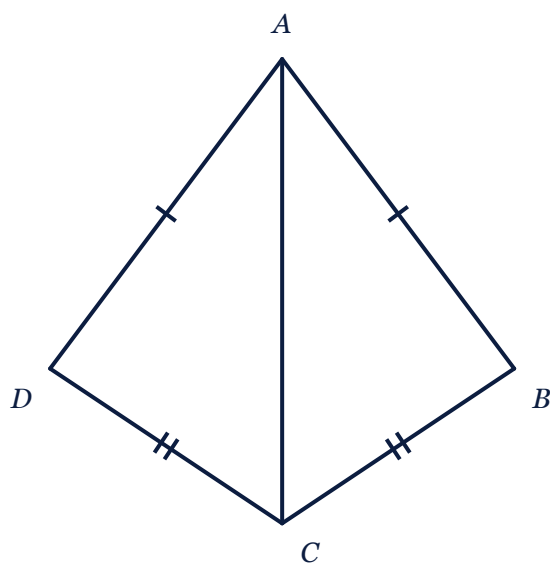


Diagram NOT accurately drawn

(3 marks)

Answer _____

11 The straight lines AD and BC cross at M.

$AM = MD$ and $BM = MC$.

Prove that triangle ABM is congruent to triangle DCM.

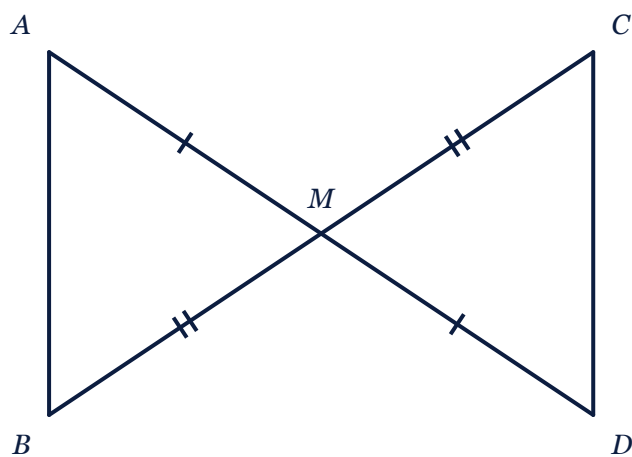


Diagram NOT accurately drawn

(3 marks)

Answer _____

- 12 In triangle ABC, D is a point on AB and E is a point on AC.
DE is parallel to BC.
AD = 4 cm, DB = 6 cm and DE = 5 cm.
Work out the length of BC.

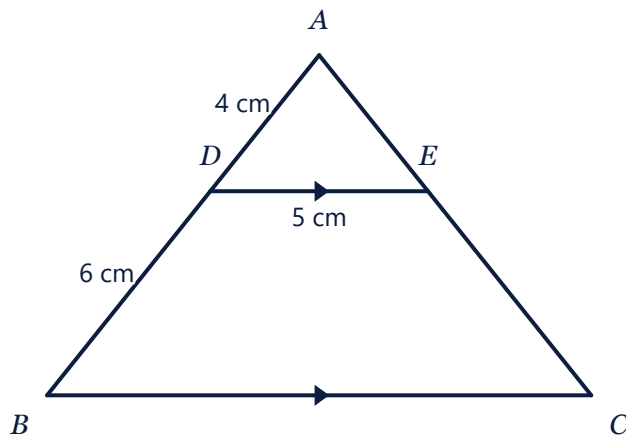


Diagram NOT accurately drawn

(3 marks)

Answer _____

End of questions | Total 28 marks