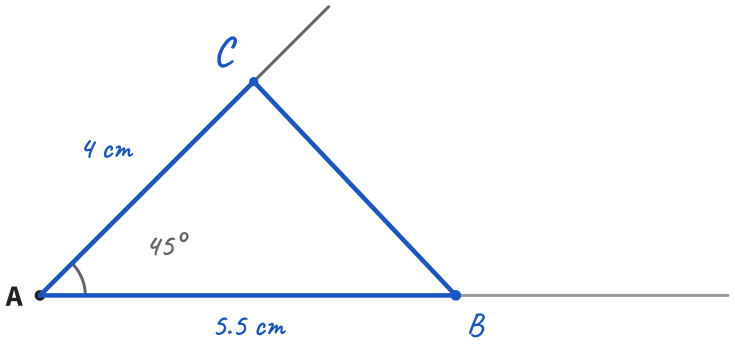
Constructing triangles with angles

ANSWERS

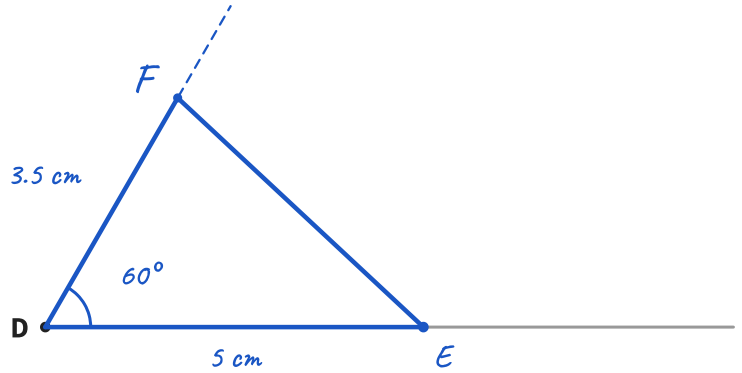
1 The angle line is drawn. Measure AB along the guide line.

Construct triangle ABC with AB = 5.5 cm, angle A = 45° and AC = 4 cm.



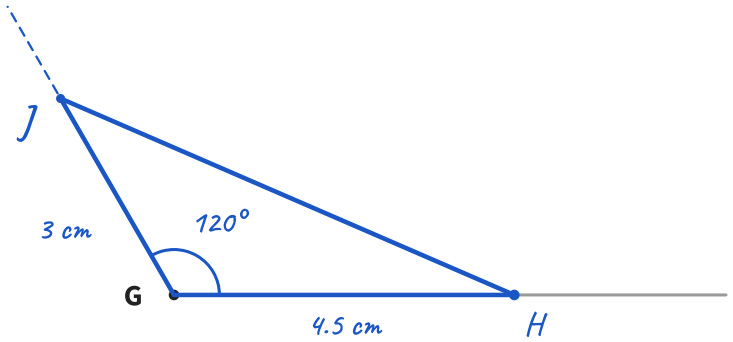
2 Base, angle, long line, measure, join.

Construct triangle DEF with DE = 5 cm, angle D = 60° and DF = 3.5 cm.



3 Notice the change!

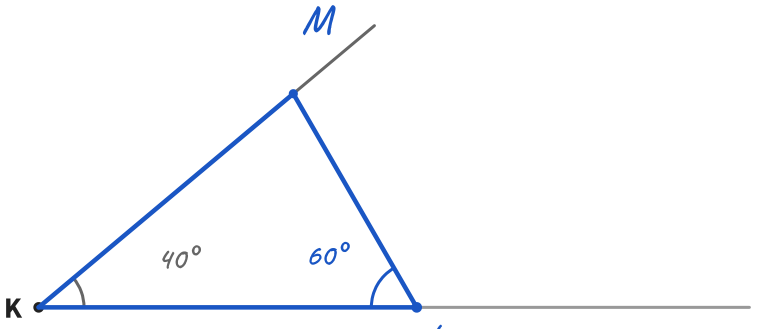
Construct triangle GHJ with GH = 4.5 cm, angle G = 120° and GJ = 3 cm.
Then measure HJ.



HJ = 6.5 cm (accept 6.3 to 6.7)

4 Notice the change! The first angle line is drawn.

Construct triangle KLM with KL = 5 cm, angle K = 40° and angle L = 60°.
Then measure KM.



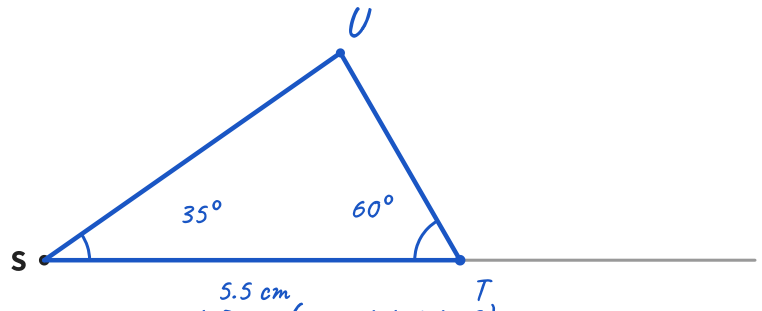
KM = 4.4 cm (accept 4.2 to 4.6)

Constructing triangles with angles

ANSWERS

5

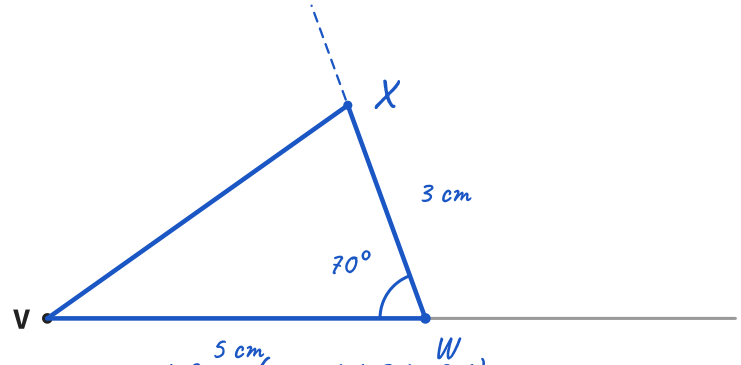
Construct triangle STU with ST = 5.5 cm, angle S = 35° and angle T = 60°.
Then measure SU. Check: angle U should be 85°.



SU = 4.8 cm (accept 4.6 to 5)

6 *Notice the change!*

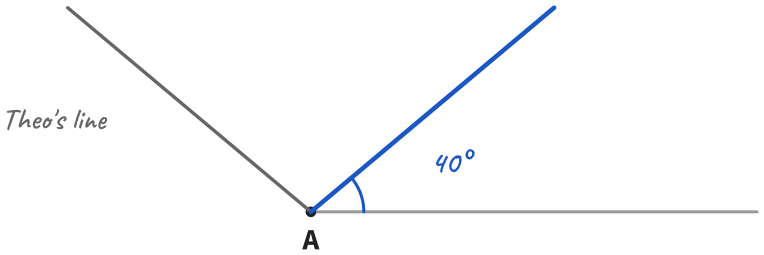
Construct triangle VWX with VW = 5 cm, angle W = 70° and WX = 3 cm.
Then measure VX.



VX = 4.9 cm (accept 4.7 to 5.1)

7

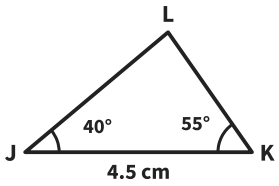
Theo was asked to draw an angle of 40° at A. What angle did he draw?
Explain his mistake, then draw the 40° line.



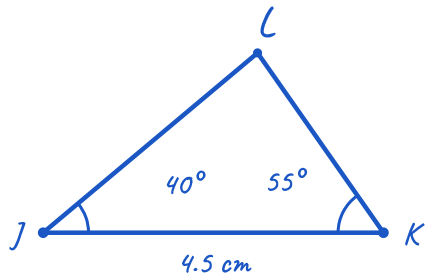
Answer 140°. He counted on the scale that starts at zero on the other side. 40° is acute.

8

Here is a sketch of triangle JKL. Construct it accurately. Then measure JL.



Not drawn accurately



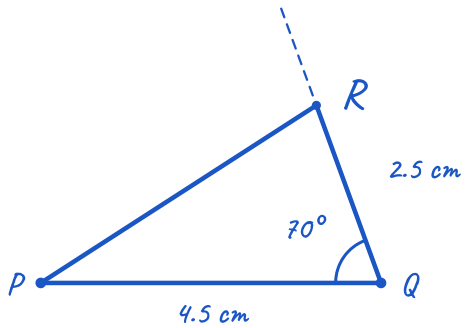
JL = 3.7 cm (accept 3.5 to 3.9)

Constructing triangles with angles *further practice*

ANSWERS

9

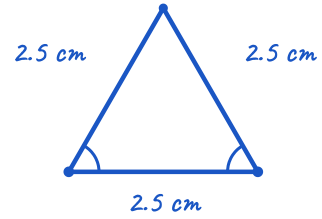
Construct triangle PQR with PQ = 4.5 cm, angle Q = 70° and QR = 2.5 cm.
Then measure PR.



PR = 4.3 cm (accept 4.1 to 4.5)

10

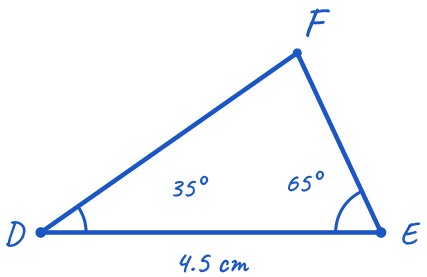
Construct a triangle with a 2.5 cm base and 60° at each end.
Measure the other sides. What type is it?



Answer Both 2.5 cm: equilateral.

11

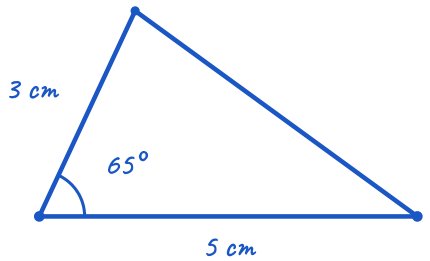
In triangle DEF, DE = 4.5 cm, angle D = 35° and angle F = 80°. Work out angle E, then construct the triangle.



Answer Angle E = 180° − 35° − 80° = 65°

12

A vegetable patch is a triangle. Two of its edges are 5 m and 3 m long, with an angle of 65° between them. Make a scale drawing. How long is the third edge?
Scale: 1 cm represents 1 m



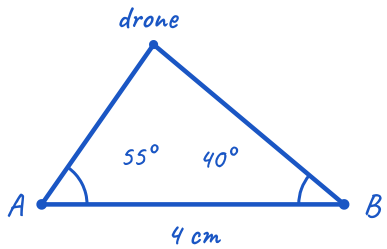
Answer 4.6 m (accept 4.4 to 4.8)

Constructing triangles with angles *further practice*

ANSWERS

13

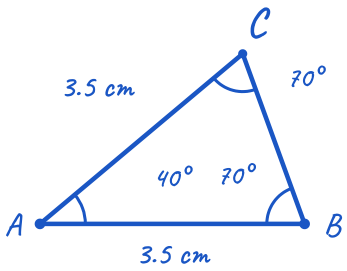
A and B are 40 m apart on a straight path. A drone is at 55° to the path from A and at 40° from B. How far is the drone from A?
Scale: 1 cm represents 10 m



Answer 25.8 m (accept 23.8 to 27.8)

14

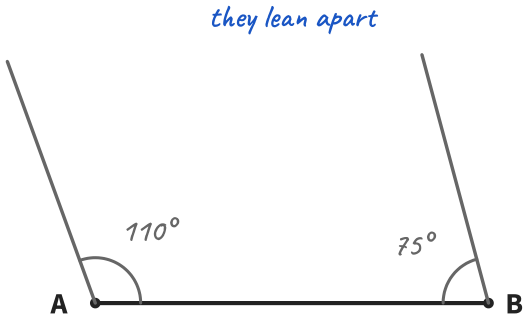
Construct triangle ABC with AB = 3.5 cm, angle A = 40° and AC = 3.5 cm.
Measure angles B and C. What do you notice?



Answer Both 70°. They are equal (the triangle is isosceles).

15

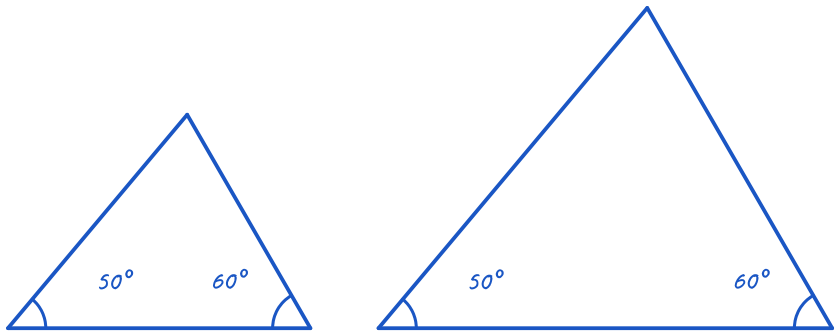
Ella drew angles of 110° and 75° at the ends of AB. Her lines never meet.
Explain why.



Answer 110° + 75° = 185°, more than 180°. The angles of a triangle add to 180°, so the lines never meet.

16

Lena knows the three angles of a triangle: 50°, 60° and 70°. Can she construct exactly one triangle? Explain.



Answer No. Every size of triangle has these angles. She also needs the length of a side.