

Constructions

For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **22**

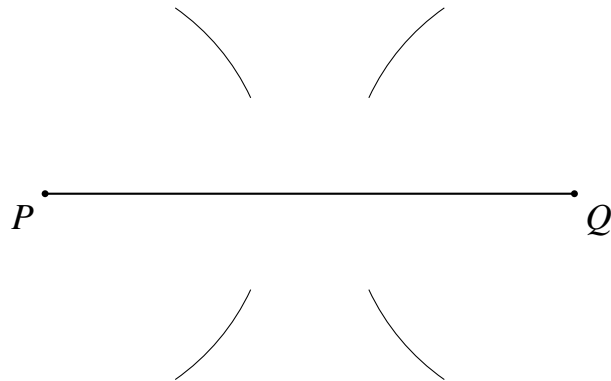
Answer **all** questions in the spaces provided. Show your working: marks are given for correct method. You will need a ruler and a pair of compasses. Diagrams are drawn accurately: print at 100%.

- 1** In this question use a pair of compasses.
Draw a circle with centre O and diameter 7 cm.

$\dot{O}$

[1 mark]

- 2 Nadia wants to construct the perpendicular bisector of the line PQ .
Here is her method.
- Open the compasses to 3 cm.
 - Draw arcs from P and from Q , above and below the line.
 - Join the points where the arcs cross.
- Here is her diagram.



What has Nadia done wrong?

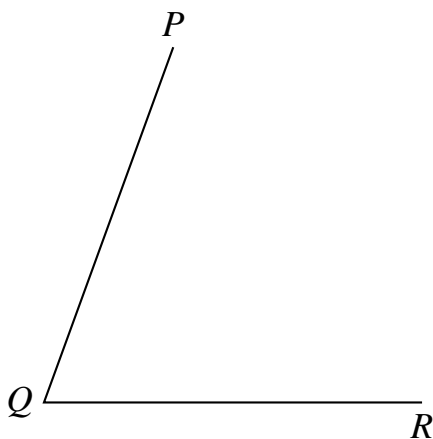
[1 mark]

- 3 Use a ruler and compasses to construct the perpendicular bisector of AB .
You must show your construction arcs.



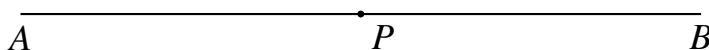
[2 marks]

- 4 Use a ruler and compasses to construct the bisector of angle PQR .
You must show your construction arcs.



[2 marks]

- 5 Use a ruler and compasses to construct a line perpendicular to AB at the point P .
You must show your construction arcs.



[2 marks]

- 6** Use a ruler and compasses to construct the perpendicular from P to the line L .
You must show your construction arcs.

P
•

————— L

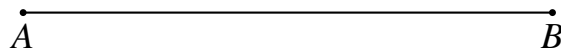
[2 marks]

- 7** Use a ruler and compasses to construct an angle of 60° at A .
Use AB as one arm of the angle.
You must show your construction arcs.

A ————— B

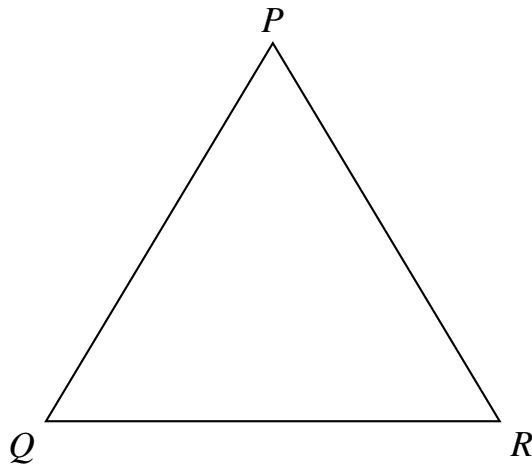
[2 marks]

- 8 Construct triangle ABC with $AC = 6$ cm and $BC = 5$ cm.
The side AB has been drawn for you.
You must show your construction arcs.



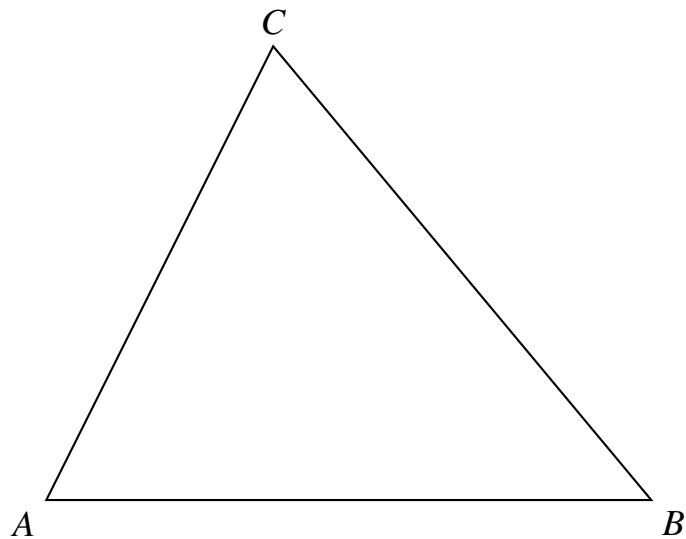
[2 marks]

- 9 Triangle PQR is isosceles with $PQ = PR$.
Using a pair of compasses and a ruler, construct the line of symmetry of the triangle.
You must show your construction arcs.



[2 marks]

- 10** Triangle ABC is shown below.
Shade the region inside the triangle of points that are
closer to side AB than to side AC
and
more than 5 cm from A .
Use a ruler and compasses. You must show your construction arcs.



[3 marks]

- 11** A flag is in the shape of an isosceles triangle.
Two sides are 1.4 m long and the other side is 1.2 m long.
Using ruler and compasses only, construct a scale drawing of the flag.
Use the scale 1 centimetre represents 20 centimetres.
You must show your construction arcs.

Scale: 1 cm represents 20 cm
[3 marks]