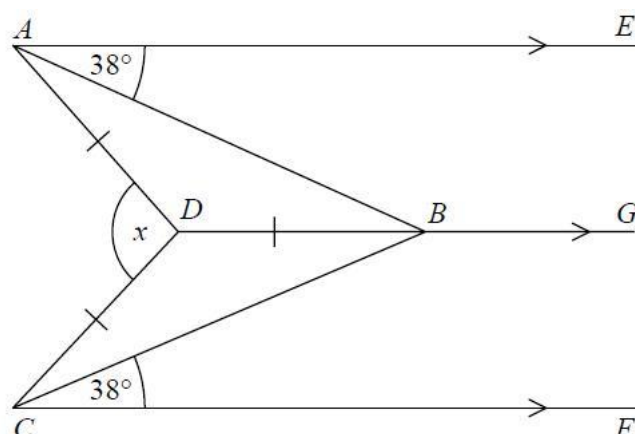


Angles in Parallel Lines (F)

A collection of 9-1 Maths GCSE Sample and Specimen questions from AQA, OCR, Pearson-Edexcel and WJEC Eduqas.

Name:	Daniel Winstanley
Total Marks:	

1. AE, DBG and CF are parallel. $DA = DB = DC$.
Angle $EAB = \text{angle } BCF = 38^\circ$



Work out the size of the angle marked x .
You must show your working.

Angle $ABD = 38^\circ$ because alternate angles are equal.

Angle $DAB = 38^\circ$ because base angles in an isosceles triangle are equal

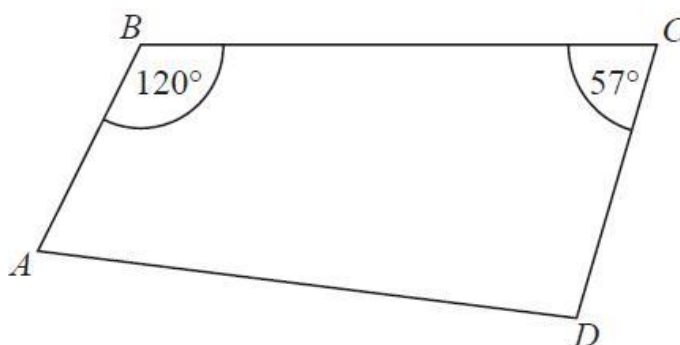
Angle $ADB = 180 - 38 - 38 = 104^\circ$ because angles in a triangle add up to 180°

Therefore $x = 360 - (104^\circ \times 2) = 152^\circ$ because angles around a point add up to 360°

*The reasons are not needed for the marks, but it is good practice.

.....^o
[3]

2. The diagram shows a quadrilateral ABCD.

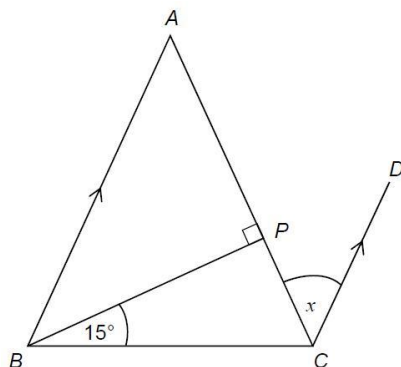


Is AB parallel to DC?

You must give your reasoning.

No, AB is not parallel to DC because co-interior angles add up to 180° and in this example, the sum of the co-interior angles is 177°

3. ABC is a triangle with $AB = AC$ BA is parallel to CD.



Show that angle $x = 30^\circ$

$$\angle PCB = 180 - 90 - 15 = 75^\circ$$

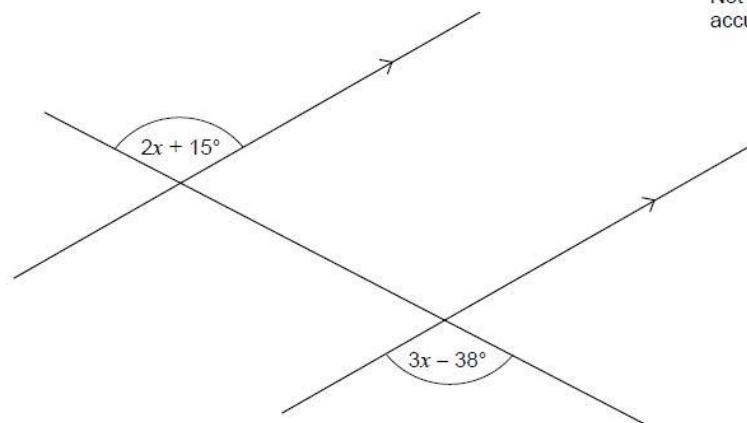
$$\angle ABC = \angle PCB = 75^\circ$$

$$\angle BCD = 180 - 75^\circ = 105^\circ$$

$$x = 105 - 75 = 30^\circ$$

[3]

4. Three straight lines are shown. Work out the value of x .



Not drawn
accurately

$$2x + 15 = 3x - 38$$

$$2x + 53 = 3x$$

$$x = 53^\circ$$

[3]

CREDITS AND NOTES

Question	Awarding Body
1	Pearson Edexcel
2	Pearson Edexcel
3	AQA
4	AQA

Notes:

These questions have been retyped from the original sample/specimen assessment materials and whilst every effort has been made to ensure there are no errors, any that do appear are mine and not the exam board's (similarly any errors I have corrected from the originals are also my corrections and not theirs!).

Please also note that the layout in terms of fonts, answer lines and space given to each question does not reflect the actual papers to save space.

These questions have been collated by me as the basis for a GCSE working party set up by the GLOW maths hub - if you want to get involved please get in touch. The objective is to provide support to fellow teachers and to give you a flavour of how different topics "could" be examined. They should not be used to form a decision as to which board to use. There is no guarantee that a topic will or won't appear in the "live" papers from a specific exam board or that examination of a topic will be as shown in these questions.



Links:

AQA <http://www.aqa.org.uk/subjects/mathematics/gcse/mathematics-8300>

OCR <http://ocr.org.uk/gcsemaths>

Pearson Edexcel <http://qualifications.pearson.com/en/qualifications/edexcel-gcses/mathematics-2015.html>

WJEC Eduqas <http://www.eduqas.co.uk/qualifications/mathematics/gcse/>

Contents:

This version contains questions from:

AQA – Sample Assessment Material, Practice set 1 and Practice set 2

OCR – Sample Assessment Material and Practice set 1

Pearson Edexcel – Sample Assessment Material, Specimen set 1 and Specimen set 2

WJEC Eduqas – Sample Assessment Material