Name: SOLUTIONS

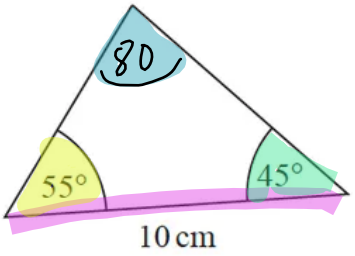
GCSE (1 - 9) Congruent Triangles	Solutions:

These questions are compiled from *released* Pearson Edexcel GCSE maths exam papers
They contain exam questions from up until the ***November 2021*** exam series
More recent exam papers do exist but are withheld for mock exams
As new exam papers are released these worksheets will gradually be updated
The ***most current*** version of these worksheets will always be available at: kennethstafford.co.uk
These worksheets were made using examq.co.uk

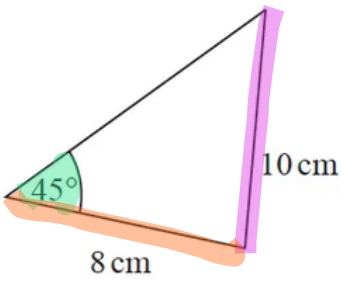
Question	Where the question appeared
1	Edexcel, GCSE, Autumn 2020, Paper 1H, Q14
2	Edexcel, GCSE, Autumn 2019, Paper 1H, Q22
3	Edexcel, GCSE, Summer 2018, Paper 3H, Q22

1

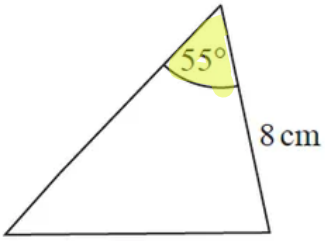
The diagram shows four triangles.



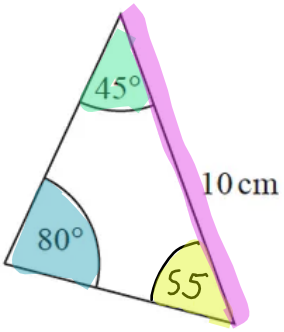
Triangle **A**



Triangle **B**



Triangle **C**



Triangle **D**

Two of these triangles are congruent.

Write down the letters of these two triangles.

A and D

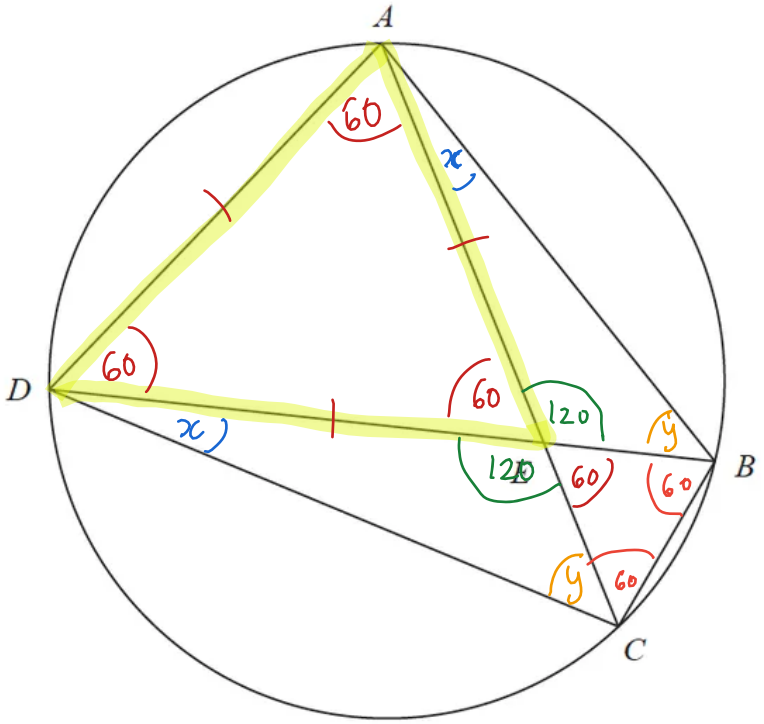
(Total for Question 4 is 1 mark)

[Edexcel, GCSE, Autumn 2020, Paper 1H, Q14]

angle side angle

2

A, B, C and D are four points on a circle.



AEC and DEB are straight lines.

Triangle AED is an equilateral triangle.

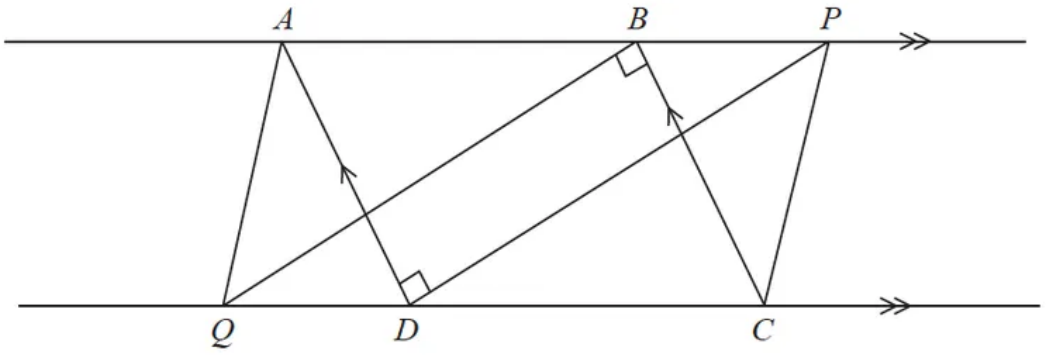
Prove that triangle ABC is congruent to triangle DCB.

for one correct pair of equal angles with correct reason from:
angle ACB = angle ADB, (angles in the same segment are equal)
angle DBC = angle DAC, (angles in the same segment are equal)
angle ABD = angle ACD, (angles in the same segment are equal)
or for recognising all angles of 60 in triangle AED and in triangle CEB)
for one identity, with reason(s), from the following list of alternatives:
Alternatives:
a complete method to show that angle ACB = angle DBC (= 60),
or
BC being common to both triangles
or
DB = DE+EB = AE+EC = AC (sides of an equilateral triangle are equal)
or
angle ABC = 60 + angle ABD = 60 + angle ACD = angle DCB (angles in the same segment are equal)
or
angle BDC = angle CAB (angles in the same segment are equal)
Underlined words need to be shown; reasons need to be linked to their statement(s)
Pairs of equal angles may be just shown on the diagram
C1 for a second identity, with reason(s), from the alternatives above
C1 for concluding the proof with a third identity, with reason(s), from the alternatives above, together with the condition for congruency, ASA or SAS or AAS

(Total for Question 22 is 4 marks)

[Edexcel, GCSE, Autumn 2019, Paper 1H, Q22]

3



$ABCD$ is a parallelogram.
ABP and QDC are straight lines.
Angle ADP = angle CBQ = 90°

(a) Prove that triangle ADP is congruent to triangle CBQ.

for starting the proof, identifying a pair of relevant equal sides or angles with reasons from
AD = BC (opposite sides of a parallelogram are equal)
angle PAD = angle QCB (opposite angles of a parallelogram are equal)
angle ADP = angle CBQ (given or both 90o)
C1 (dep C1) for complete identification of all three equal aspects with reasons
C1 (dep C2) for conclusion of congruency proof Congruency conclusion must include a
reference to ASA

(3)

(b) Explain why AQ is parallel to PC.

(b) Explanation C1 for identifying a pair of equal sides or angles in APCQ, with reason,
eg AP = QC since triangle ADP is congruent to triangle CBQ
C1 (dep C1) for reasoning that APCQ is a parallelogram so opposite sides of a parallelogram are parallel

(2)

(Total for Question 21 is 5 marks)

[Edexcel, GCSE, Summer 2018, Paper 3H, Q22]