CONGRUENT TRIANGLES
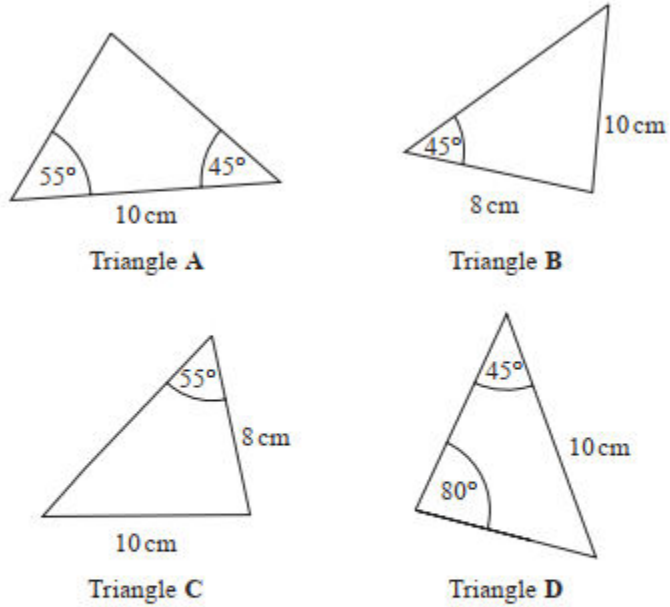
Pearson Edexcel - Tuesday 19 May 2020 - Paper 1 (Non-Calculator) Higher Tier

1.

4   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.

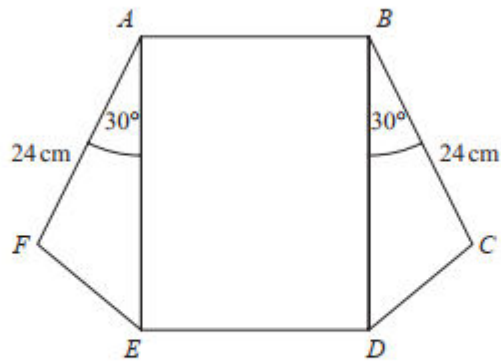... and ....

(Total for Question 4 is 1 mark)

Pearson Edexcel - Tuesday 11 June 2019 - Paper 3 (Calculator) Higher Tier

2.

14 The diagram shows a rectangle, *ABDE*, and two congruent triangles, *AFE* and *BCD*.

area of rectangle *ABDE* = area of triangle *AFE* + area of triangle *BCD*
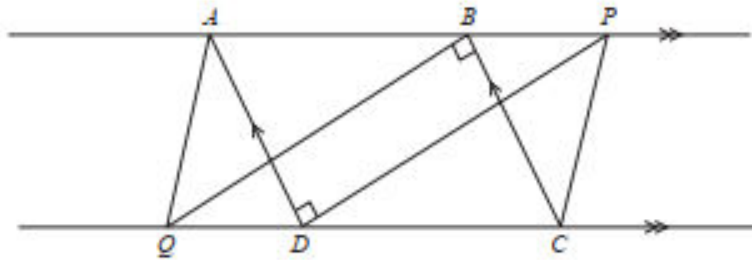
$$AB : AE = 1 : 3$$

Work out the length of *AE*.

.... cm

(Total for Question 14 is 4 marks)

Pearson Edexcel - Tuesday 12 June 2018 - Paper 3 (Calculator) Higher Tier

3.

21

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.

(3)

(b) Explain why AQ is parallel to PC.

(2)

(Total for Question 21 is 5 marks)

Pearson Edexcel - Specimen Papers Set 2 - Paper 1 (Non-Calculator) Higher Tier

4.

12 *ABCD* is a parallelogram.
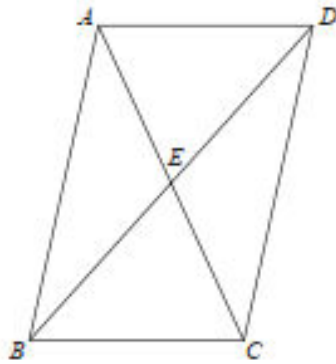
E is the point where the diagonals *AC* and *BD* meet.

Prove that triangle *ABE* is congruent to triangle *CDE*.

Pearson Edexcel - Specimen Papers Set 1 - Paper 1 (Non-Calculator) Higher Tier

5.

17
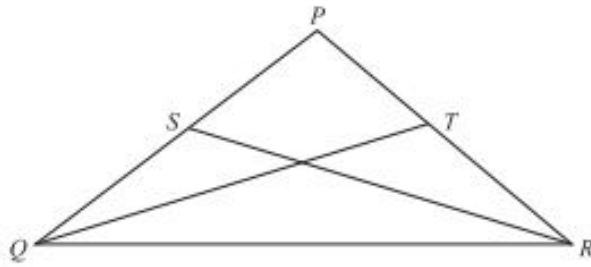
$PQ = PR$.
S is the midpoint of PQ.
T is the midpoint of PR.

Prove triangle QTR is congruent to triangle RSQ.

Pearson Edexcel - Sample Paper 3 - (Calculator) Higher Tier

6.

13 *ABCD* is a rhombus.
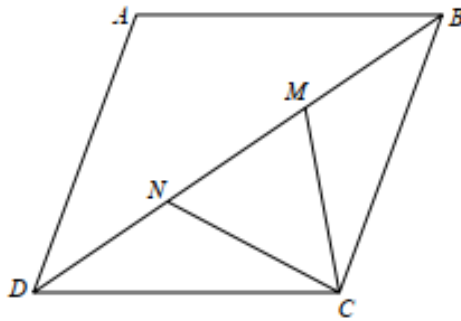
M and *N* are points on *BD* such that *DN* = *MB*.

Prove that triangle *DNC* is congruent to triangle *BMC*.

(Total for Question 13 is 3 marks)

Pearson Edexcel - Friday 8 November 2013 - Paper 2 (Calculator) Higher Tier

7.

*28
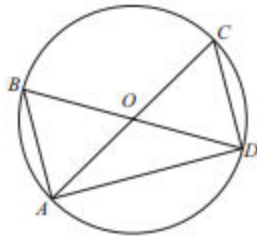
Diagram **NOT** accurately drawn

AOC and *BOD* are diameters of a circle, centre *O*.

Prove that triangle *ABD* and triangle *DCA* are congruent.

(Total for Question 28 is 3 marks)

Pearson Edexcel - Monday 14 November 2011 - Paper 4 (Calculator) Higher Tier

8.

22.

Diagram **NOT** accurately drawn
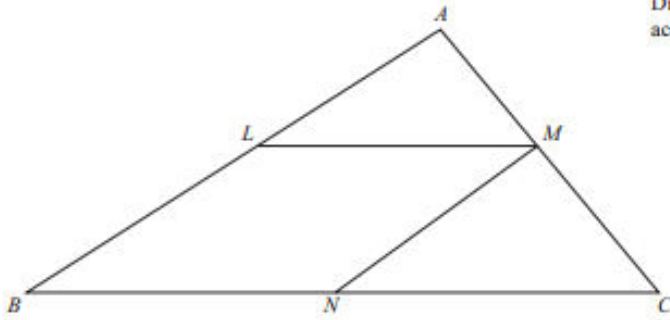
The diagram shows a triangle *ABC*.

LMNB is a parallelogram where
   L is the midpoint of *AB*,
   M is the midpoint of *AC*,
and *N* is the midpoint of *BC*.

Prove that triangle *ALM* and triangle *MNC* are congruent.
You must give reasons for each stage of your proof.

(Total 3 marks)

OCR GSCE – Thursday 5 November 2020 – Paper 5 (Non-Calculator) Higher Tier

9.

9 In the diagram, AB and DC are parallel lines of equal length.
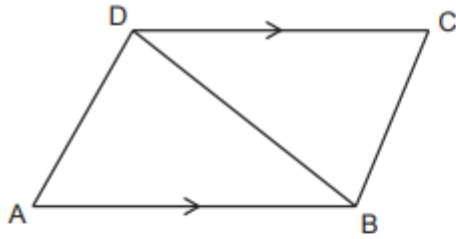
Not to scale

Prove that angle DAB = angle BCD.

....

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....

....

.... **[4]**

11 (a) Are these two triangles definitely congruent?
Give a reason.

Not to scale
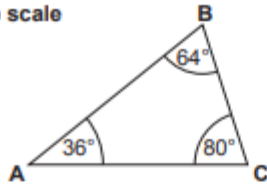
.... because ....
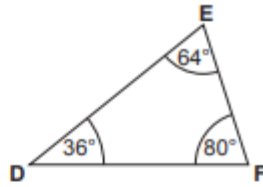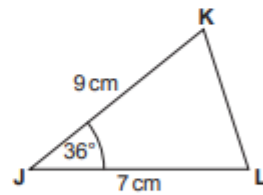
....

....

.... **[1]**

(b) Prove that these two triangles are congruent.

Not to scale

....

....

....

....

.... **[3]**

11.

11   The diagram below shows two triangles.

Not to scale

Prove that triangle ABC is congruent to triangle ACD.

....

....

....

....

....

.... [4]
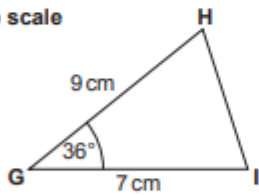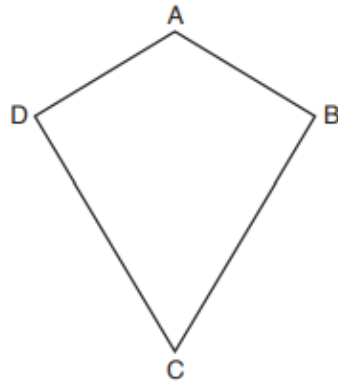
12.

10 ABCD is a quadrilateral.
    AD = AB and CD = CB.

Not to scale

Prove that angle ADC is equal to angle ABC.
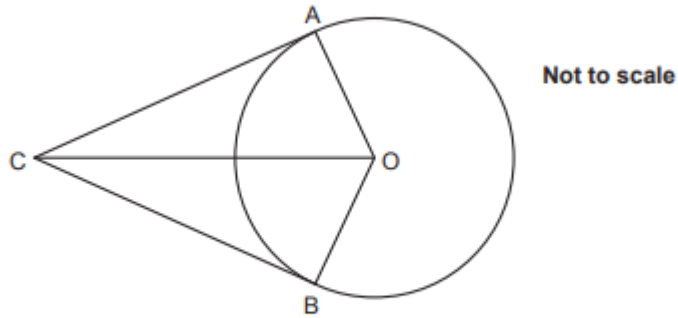
....

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....

....

....

.... [4]

13.

13 A and B are points on the circumference of a circle, centre O.
CA and CB are tangents to the circle.

Not to scale

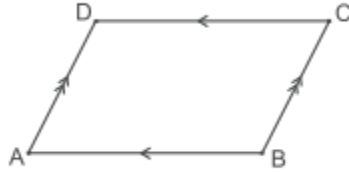Prove that triangle OAC is congruent to triangle OBC.

....

....

....

....

.... **[4]**

OCR GSCE – Sample Papers – Paper 4 (Calculator) Higher Tier

14.

10 ABCD is a parallelogram.

Prove that triangle ABD is congruent to triangle CDB.   [3]

AQA GSCE – Thursday 4 June 2020 – Paper 2 (Calculator) Higher Tier

15.

2
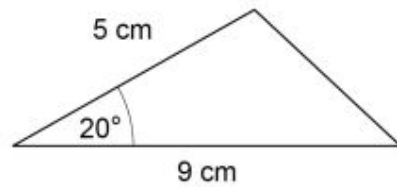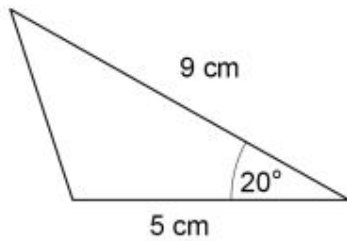
Not drawn
accurately

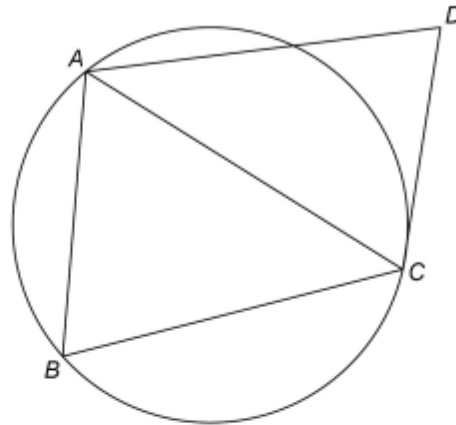Circle the reason why these triangles are congruent.

[1 mark]

RHS   ASA   SSS   SAS

20   *A*, *B* and *C* are points on a circle.
            CD is a tangent.

Not drawn
accurately

20 (a)   Assume that triangle *ABC* is isosceles with   *AC = BC*

Prove that *AB* is parallel to *DC*.

[4 marks]

_____

_____

_____

_____

_____

_____

_____

_____

20 (b)   In fact, triangle *ABC* is equilateral.

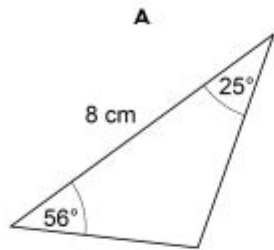Tick the **two** boxes for the statements that **must** be correct.

[1 mark]
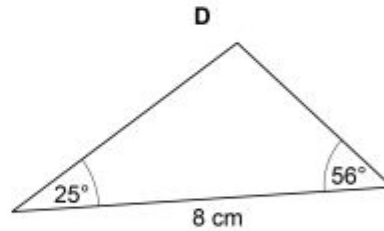
☐   *AB* is parallel to *DC*

☐   *AC* bisects angle *BCD*

☐   *AC* bisects angle *BAD*

11   Here are four triangles.

A

8 cm   25°

56°

B

8 cm   56°

25°

Not drawn
accurately

C

56°   25°

8 cm

D

25°   56°

8 cm
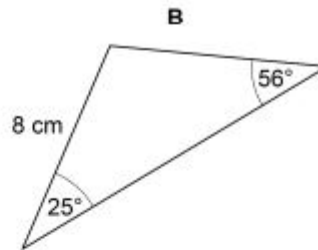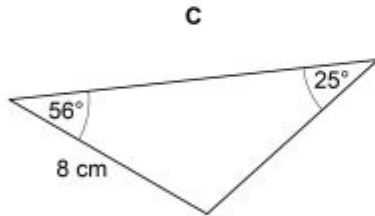
Which **two** triangles are congruent?
Circle **two** letters below.

[1 mark]

A   B   C   D

AQA GSCE – Wednesday 25 May 2017 – Paper 1 (Non - Calculator) Higher Tier

18.

2
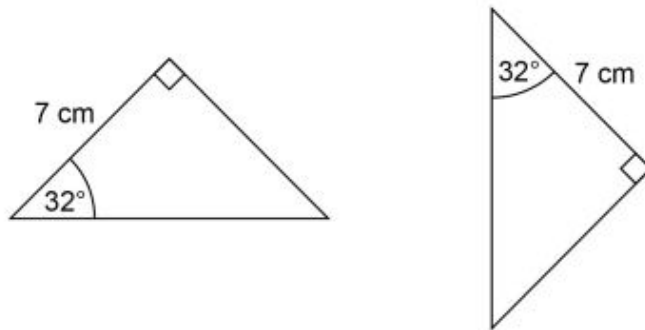
Not drawn accurately

Circle the reason why these triangles are congruent.

[1 mark]

SSS   SAS   ASA   RHS

AQA GSCE – Tuesday 13 June 2017 – Paper 3 (Calculator) Higher Tier

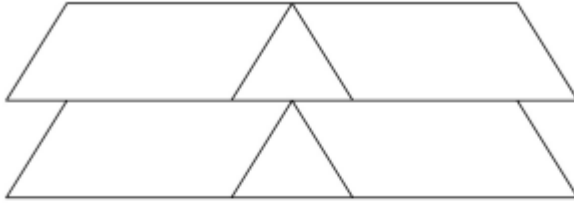**19.**

8   This shape is made from two triangles and four congruent parallelograms.

Not drawn
accurately

For each statement, tick the correct box.

8 (a)   The triangles are equilateral.

[1 mark]

☐   Must be true

☐   Could be true

☐   Must be false

8 (b)   The triangles are congruent.

[1 mark]

☐   Must be true

☐   Could be true

☐   Must be false

20.

2   Which of these is **not** used to prove that triangles are congruent?

Circle your answer.

[1 mark]

SSS   SAS   AAA   RHS