ANGLES

**Pearson Edexcel - Thursday 4 June 2020 - Paper 2 (Calculator) Foundation Tier**

1.

8
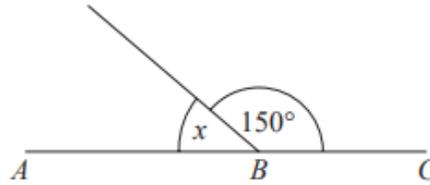
ABC is a straight line.

(a) (i) Work out the size of the angle marked *x*.

....

(1)

(ii) Give a reason for your answer.

....

....

....

(1)

The diagram below is wrong.
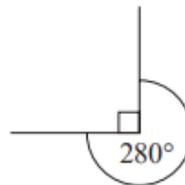
(b) Explain why.

....

....

....

(1)

(Total for Question 8 is 3 marks)

2.

20 The diagram shows a square *ABDE* and an equilateral triangle *BCD*.
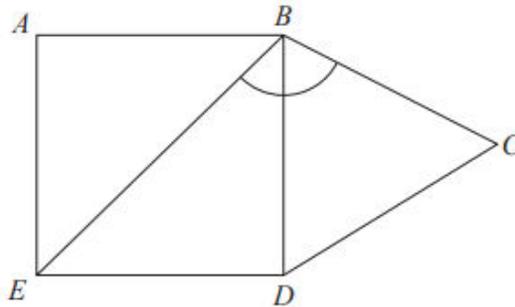

Work out the size of angle *EBC*.

.... °

(Total for Question 20 is 2 marks)

3.

29
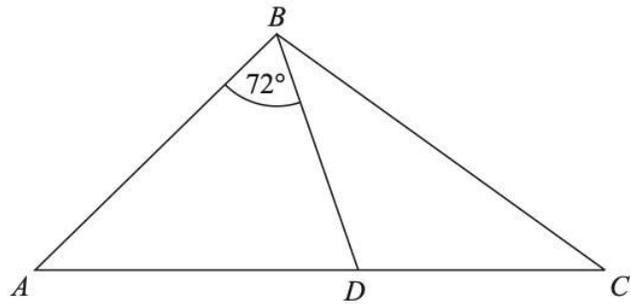
ABC is an isosceles triangle with *BA* = *BC*.

D lies on *AC*.
ABD is an isosceles triangle with *AB* = *AD*.

Angle *ABD* = 72°

Show that the triangle *BCD* is isosceles.
You must give a reason for each stage of your working.

Pearson Edexcel – Specimen 1 - Paper 1 (Non-Calculator) Foundation Tier

    4.

20 The diagram shows a right-angled triangle.
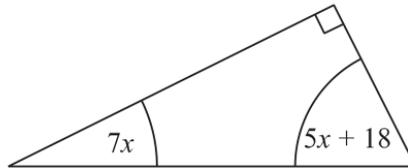
All the angles are in degrees.

Work out the size of the smallest angle of the triangle.

.... °

(Total for Question 20 is 3 marks)

Pearson Edexcel – Specimen 1 - Paper 2 (Calculator) Foundation Tier

    5.

17 *ABC* is a right-angled triangle.
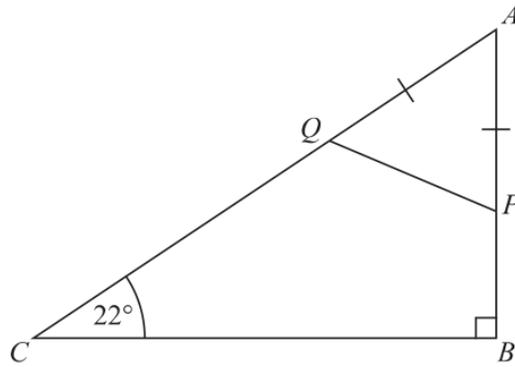
P is a point on *AB*.
Q is a point on *AC*.
AP = AQ.

Work out the size of angle *AQP*.
You must give a reason for each stage of your working.

(Total for Question 17 is 4 marks)

6.

14 Here is a triangle *ABC*.
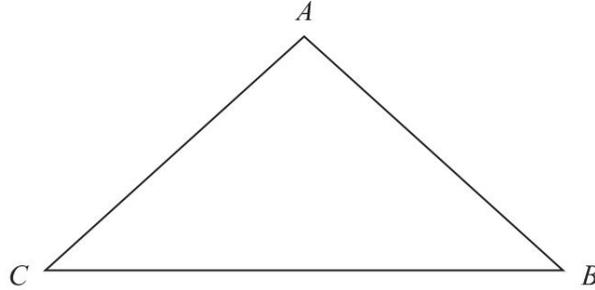
(a) Mark, with the letter *y*, the angle *CBA*.

(1)

Here is a cuboid.
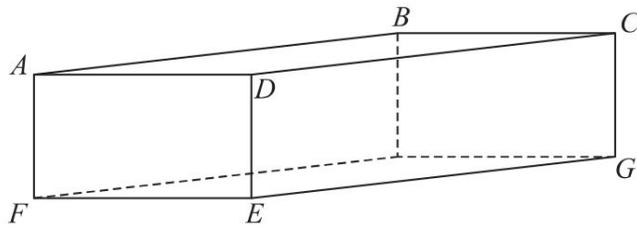
Some of the vertices are labelled.

(b) Shade in the face *CDEG*.

(1)

(c) How many edges has a cuboid?

....

(1)

(Total for Question 14 is 3 marks)

7.

17 *ABC* is an isosceles triangle.
When angle *A* = 70°, there are 3 possible sizes of angle *B*.

(a) What are they?

.... ° , ... ° , ... °

(3)

When angle *A* = 120°, there is only one possible size of angle *B*.

(b) Explain why.

....

....

(1)

Pearson Edexcel – Sample Paper 1 (Non-Calculator) Foundation Tier

8.

23
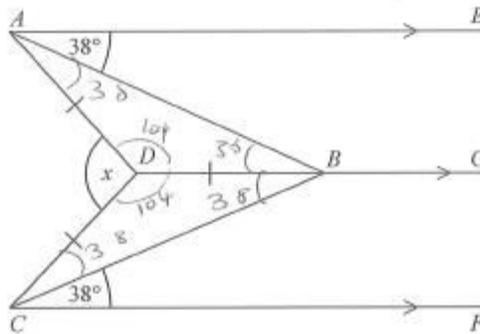
AE, DBG and CF are parallel.
DA = DB = DC.
Angle EAB = angle BCF = 38°

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

DBC and ABD = 38° (Alternate angles
are equal)

BAD and BCD = 38° (Angles at the base
of an Isosceles triangle
are equal)

ADB and BDC = 104° (Angles in a triangle
sum to 180°)

x = 152 Angles around a point sum to 360°

_____152_____ °

(Total for Question 23 is 3 marks)

9.

**18** A triangle has sides of length 14.1 cm, 14.8 cm and 19.5 cm.

Is this a right-angled triangle?
Show how you decide.

.... because ....

.... **[4]**

10.

21 The diagram shows a kite, ABCD.
AFE and CEF are equilateral triangles.

Not to scale
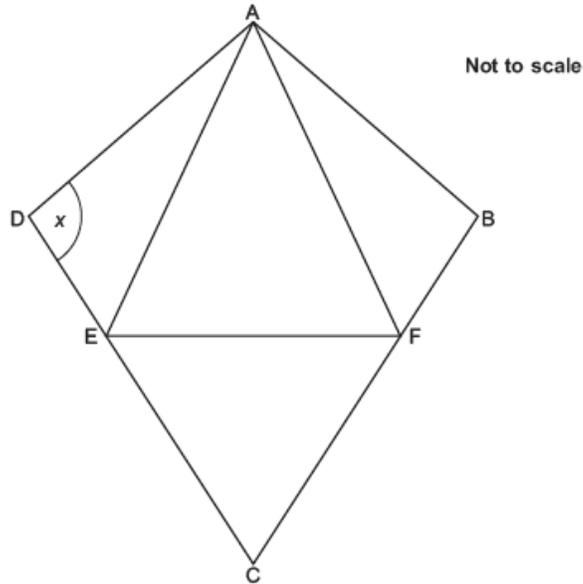
(a) Write down a mathematical name for quadrilateral AFCE.

(a) .... [1]

(b) The ratio of angle DAE : angle EAF = 1 : 4.

Work out angle *x*.
Write on the diagram the values of any other angles you use in your working.

(b)   *x* = ...° [4]

11.

14 **(a)** Three lines meet at a point.

Not to scale
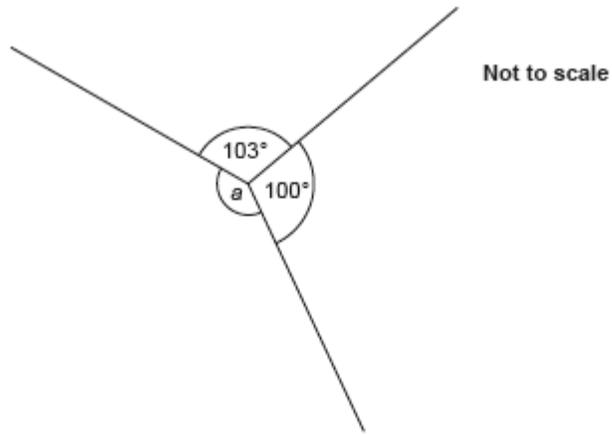
Work out the size of angle *a*.

(a) *a* = ...° **[2]**

(b) XY and CW are parallel lines.
AB = CB.
Angle CAX = 130°.
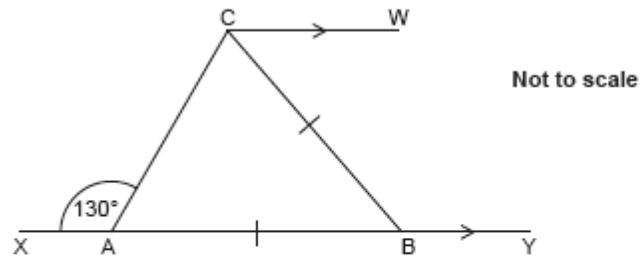
Not to scale

(i) Complete this sentence.

Angle CAB = 50° because ....

.... **[1]**

(ii) Work out angle BCW.
Give a reason for each angle you work out.

12.

20 The diagram shows two intersecting straight lines.
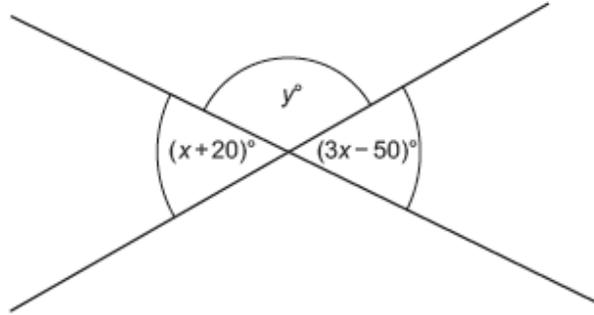
Not to scale

Find the value of y.

$y =$ .... **[6]**

13.

1 **(a)** Write down the mathematical name of this type of angle.
Choose from the list in the box.

| acute | reflex | obtuse | right angle |

(a) .... **[1]**

(b) Measure angle g.

g
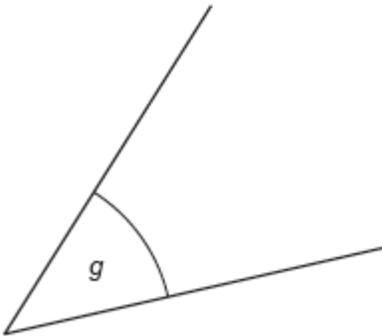
(b) ....° **[1]**

14.

13
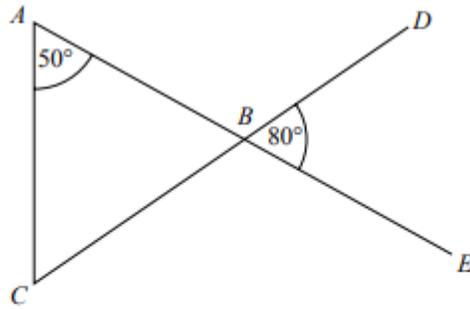
ABE and *CBD* are straight lines.

Show that triangle *ABC* is an isosceles triangle.
Give a reason for each stage of your working.

(Total for Question 13 is 4 marks)

15.

13
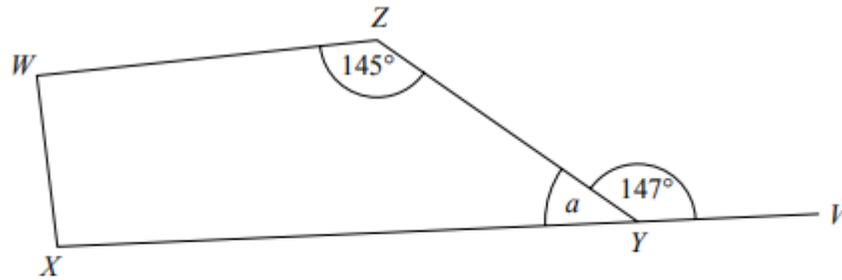
WXYZ is a quadrilateral.
XYV is a straight line.

(a) (i) Find the size of the angle marked *a*.

.... °

(ii) Give a reason for your answer.

....

(2)

Angle *ZWX* = angle *WXY*

(b) Work out the size of angle *ZWX*.

.... °

(2)

_____**(Total for Question 13 is 4 marks)**_____

16.

1 **(a)** **(i)** Measure angle *a*.
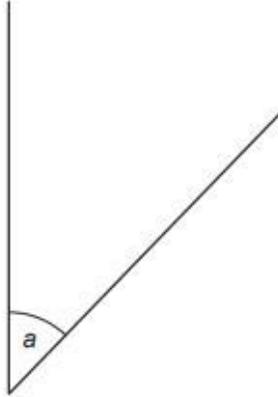
(a)(i) .... ° **[1]**

(ii) Write down the mathematical name of this type of angle.

(ii) .... **[1]**

(b) Choose one of these words to complete the following sentence.

perpendicular   vertical   parallel   horizontal
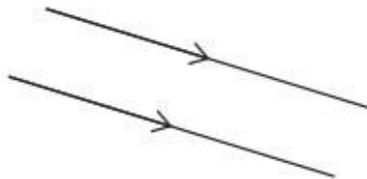
These are .... lines. **[1]**

6 XY and BD are parallel lines.
   X is a point on AB and C is a point on BD.
   XB = XC.
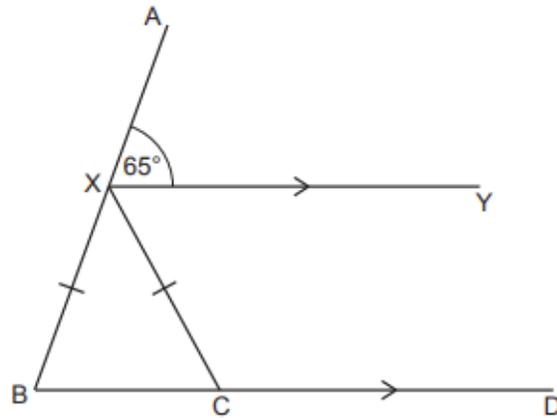
Not to scale

(a) Complete this sentence.

Angle XBC = 65° because .... [1]

(b) Work out angle BXC.
    Give a reason for each angle you work out.

(b) .... ° [4]

17.

6 XY and BD are parallel lines.
X is a point on AB and C is a point on BD.
XB = XC.
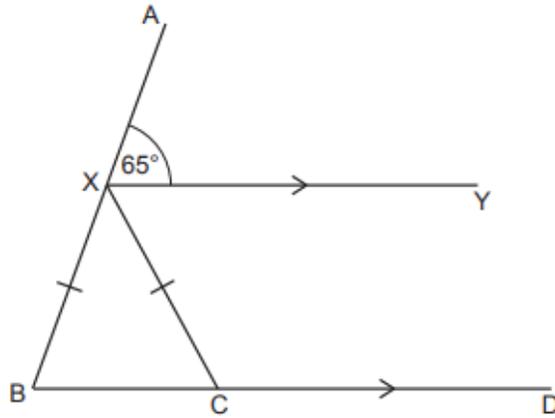
Not to scale

(a) Complete this sentence.

Angle XBC = 65° because .... **[1]**

(b) Work out angle BXC.
Give a reason for each angle you work out.

(b) .... ° **[4]**

18.

8 The diagram shows a triangle.
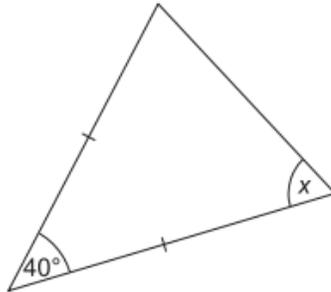
Not to scale

Find the value of *x*.
Give a reason for each step of your working.

x = ...° **[3]**

19.

2
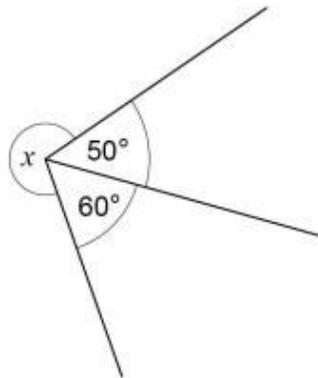
Not drawn
accurately

Circle the size of angle x.

[1 mark]

70°   110°   250°   270°

20.

11   *AB* is a straight line.
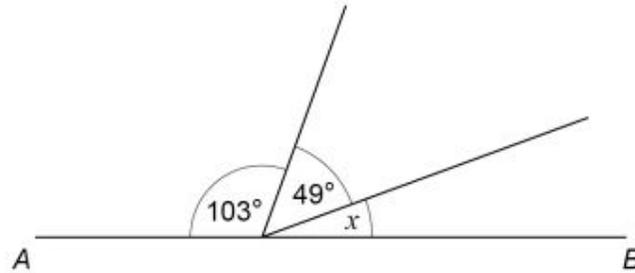
Not drawn
accurately

Work out the size of angle *x*.

[2 marks]

_____

_____

_____

Answer _____ degrees

21.

1   Which type of angle is the largest?
Circle your answer.

[1 mark]

right   reflex   obtuse   acute

22.

10   In rectangle *ABCD*

triangle *ABE* is equilateral

triangle *CDE* is isosceles, with *CE = DE*
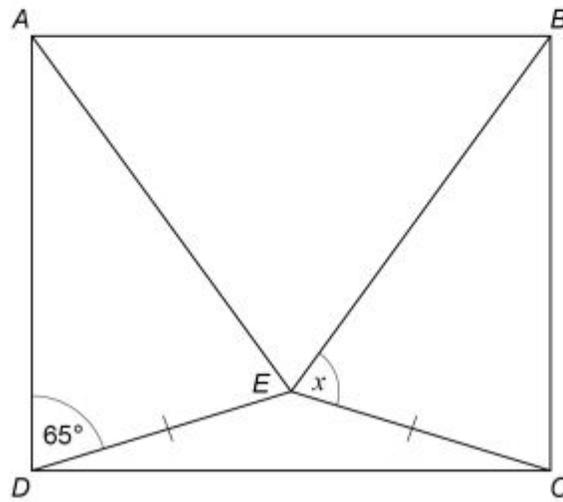
Not drawn
accurately

Work out the size of angle x.

**[4 marks]**

_____

_____

_____

_____

_____

_____

        Answer _____ degrees

23.

16 (a) *BCD* is a straight line.
Triangle *ABC* is equilateral.
CE = *DE*

Not drawn
accurately
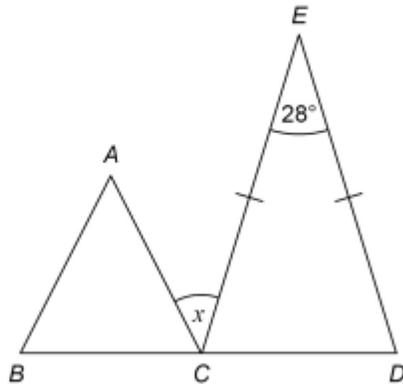
Work out the size of angle *x*.

[4 marks]

_____

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____ degrees

16 (b) Amba is working out the size of an **interior** angle of a regular octagon.
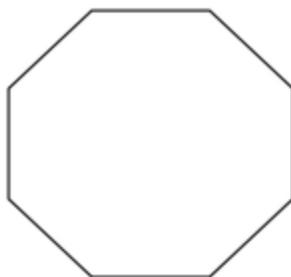
Not drawn
accurately

Her method is   Interior angle = 360 ÷ 8

Is her method correct?

Tick a box.

☐ Yes   ☐ No

Give a reason for your answer.

[1 mark]

_____

_____

_____

24.

13

Not drawn
accurately

Work out the size of angle x.

[2 marks]

_____

_____

_____

_____

_____

_____

_____

Answer _____ degrees