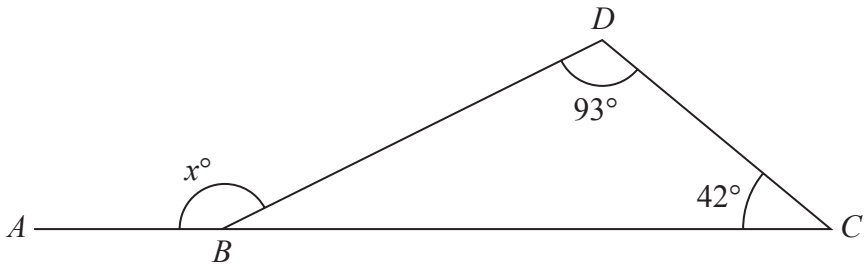
1 *ABC* is a straight line and *BCD* is a triangle.

Diagram **NOT** accurately drawn



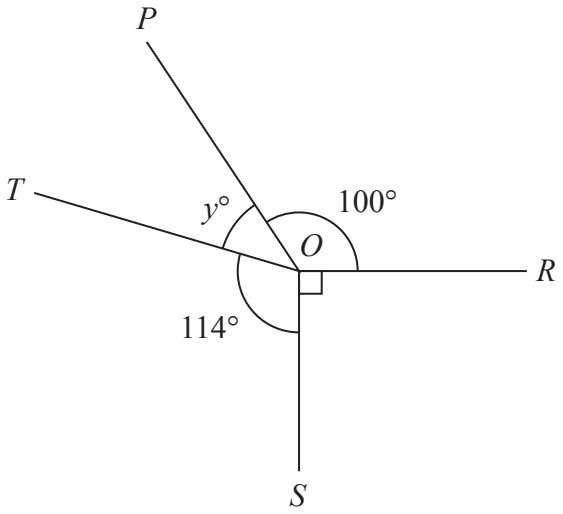
(a) Work out the value of x

$x =$ .....

(2)

PO, *RO*, *SO* and *TO* are four straight lines.

Diagram **NOT** accurately drawn



(b) (i) Work out the value of y

$y =$ .....

(2)

(ii) Give a reason for your answer.

.....

(1)

(Total for Question 1 is 5 marks)

2 The diagram shows triangle *ABD*

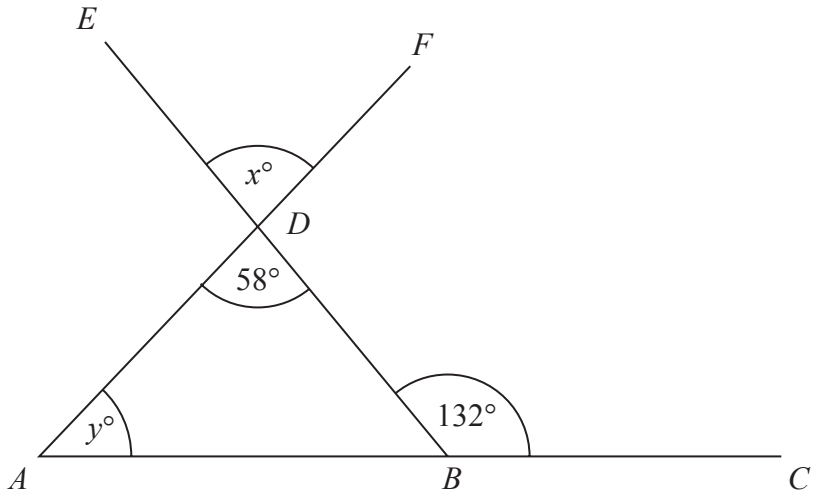


Diagram **NOT** accurately drawn

ABC, *BDE* and *ADF* are straight lines.

angle *CBD* = 132° angle *ADB* = 58°

(a) (i) Write down the value of *x*

x = ...

(ii) Give a reason for your answer.

.....

(2)

(b) Work out the value of *y*

y = ...

(2)

(Total for Question 2 is 4 marks)

3

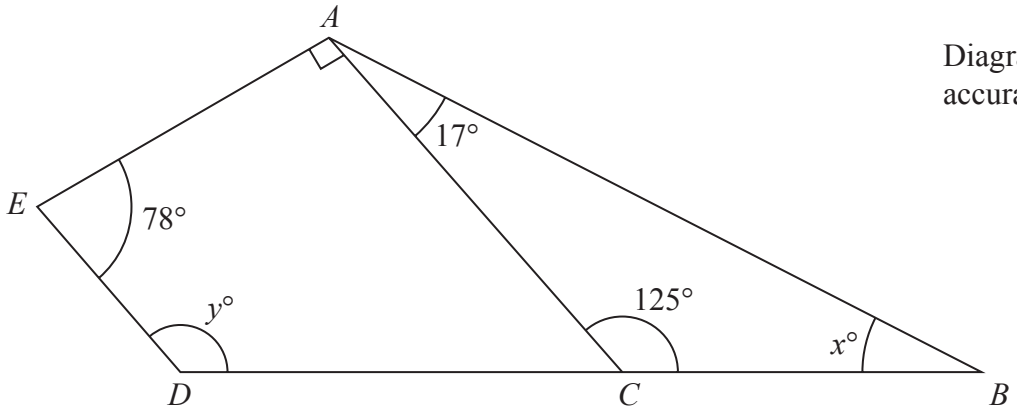


Diagram **NOT** accurately drawn

ABDE is a quadrilateral.
ABC is a triangle.
DCB is a straight line.

(a) (i) Work out the value of x.

$x =$ .....

(1)

(ii) Give a reason for your answer.

.....

(1)

(b) Work out the value of y.
Give a reason for each stage of your working.

$y =$ .....

(3)

(Total for Question 3 is 5 marks)

4

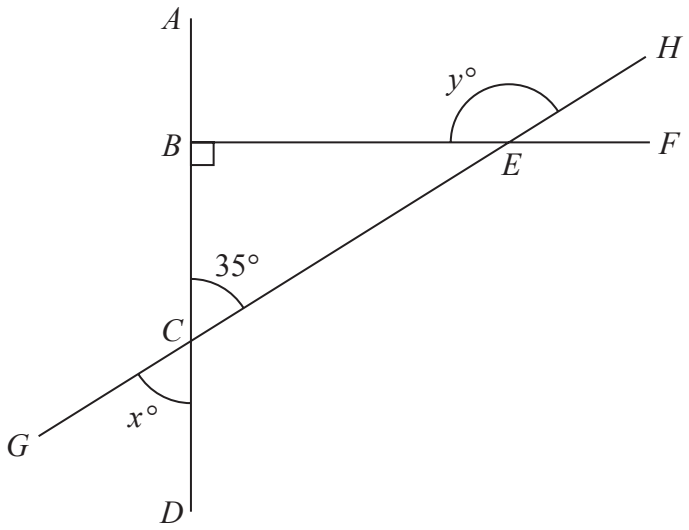


Diagram **NOT** accurately drawn

In the diagram, *BCE* is a right-angled triangle.
ABCD, *BEF* and *GCEH* are straight lines.

Angle *BCE* = 35°

(a) (i) Find the value of x

$x =$ .....

(1)

(ii) Give a reason for your answer.

.....

(1)

(b) (i) Work out the value of y

$y =$ .....

(2)

(ii) Give a reason for your answer.

.....

.....

(1)

(Total for Question 4 is 5 marks)

5 The diagram shows two parallel lines *AB* and *DEF*

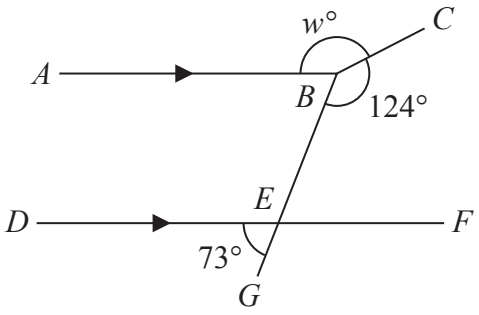


Diagram **NOT** accurately drawn

BEG is a straight line.

angle *DEG* = 73° angle *EBC* = 124° angle *ABC* = *w*°

Work out the value of *w*
Give reasons for each stage of your working.

w = ...

(Total for Question 5 is 4 marks)

6

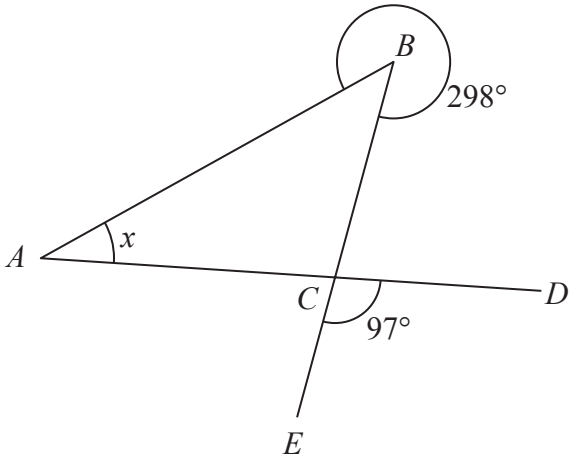


Diagram **NOT** accurately drawn

ABC is a triangle.
D and *E* are points such that *ACD* and *BCE* are straight lines.

reflex angle *ABC* = 298°
angle *ECD* = 97°

Work out the size of angle *x*.
Give a reason for each stage of your working.

x = ... °

(Total for Question 6 is 4 marks)

7

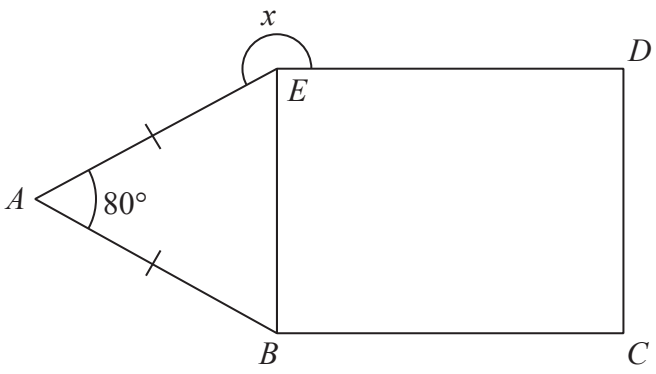


Diagram **NOT** accurately drawn

BCDE is a rectangle.
ABE is an isosceles triangle.

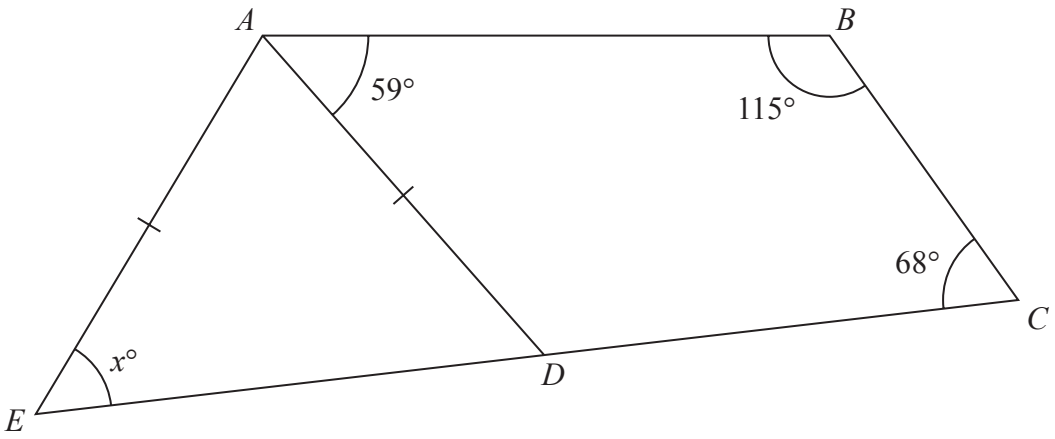
AB = *AE*
Angle *BAE* = 80°

Work out the size of angle *x*.

.....°

(Total for Question 7 is 3 marks)

8 The diagram shows quadrilateral *ABCD* and isosceles triangle *ADE*, where *AE* = *AD*.



EDC is a straight line.

Work out the value of *x*.
Give a reason for each stage of your working.

x = ...

(Total for Question 8 is 4 marks)

9 The diagram shows a trapezium $ABCD$ in which AB and DC are parallel.

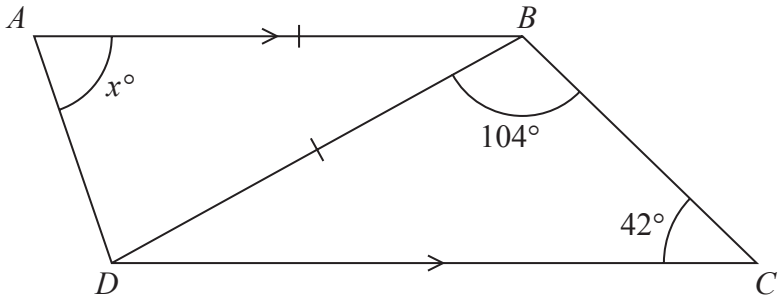


Diagram **NOT** accurately drawn

$AB = DB$

Work out the value of x.
Give a reason for each stage of your working.

$x =$ .....

(Total for Question 9 is 4 marks)

10

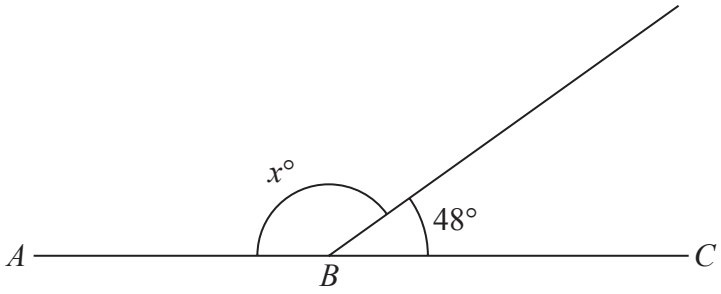


Diagram **NOT** accurately drawn

ABC is a straight line.

(a)(i) Work out the value of x

$x =$ .....

(1)

(ii) Give a reason for your answer to (i)

.....

(1)

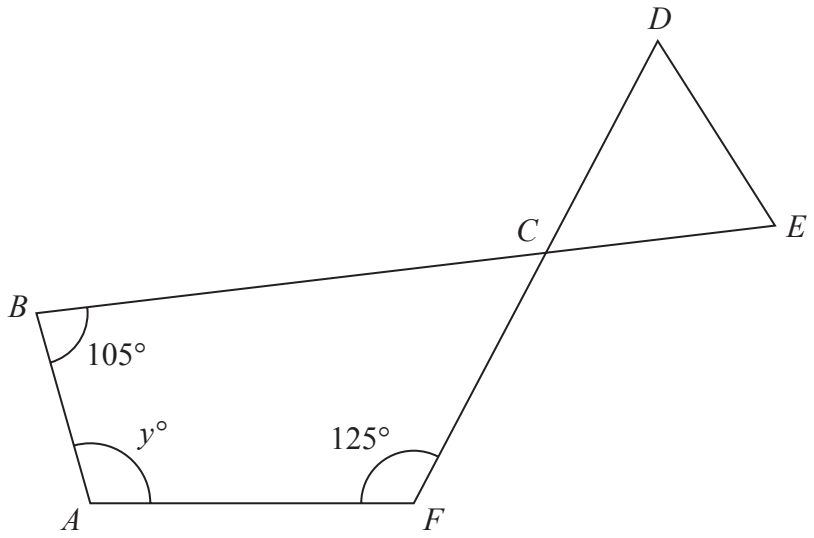


Diagram **NOT** accurately drawn

CDE is an equilateral triangle.
ABCF is a quadrilateral.

BCE and *DCF* are straight lines.

(b) Work out the value of y
You must show your working.

$y =$ .....

(3)

(Total for Question 10 is 5 marks)

11

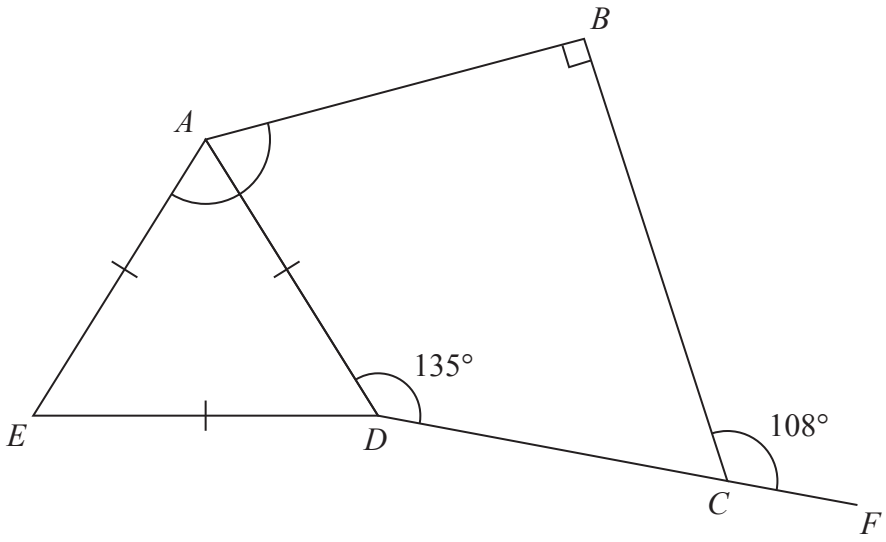


Diagram **NOT** accurately drawn

ABCD is a quadrilateral.
ADE is an equilateral triangle.
DCF is a straight line.

Work out the size of angle *EAB*.
Give a reason for each stage of your working.

.....°

(Total for Question 11 is 5 marks)

12 The diagram shows two triangles, *CDB* and *BDA*.

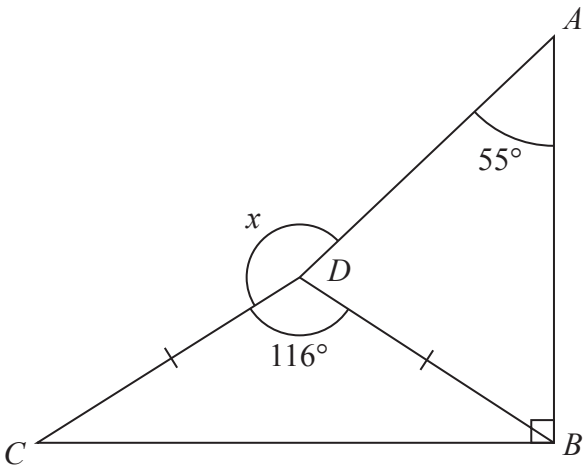


Diagram **NOT** accurately drawn

DC = *DB*
Angle *ABC* = 90°
Angle *CDB* = 116°
Angle *DAB* = 55°

Work out the size of the angle marked *x*.
Give a reason for each stage of your working.

.....°

(Total for Question 12 is 5 marks)

13

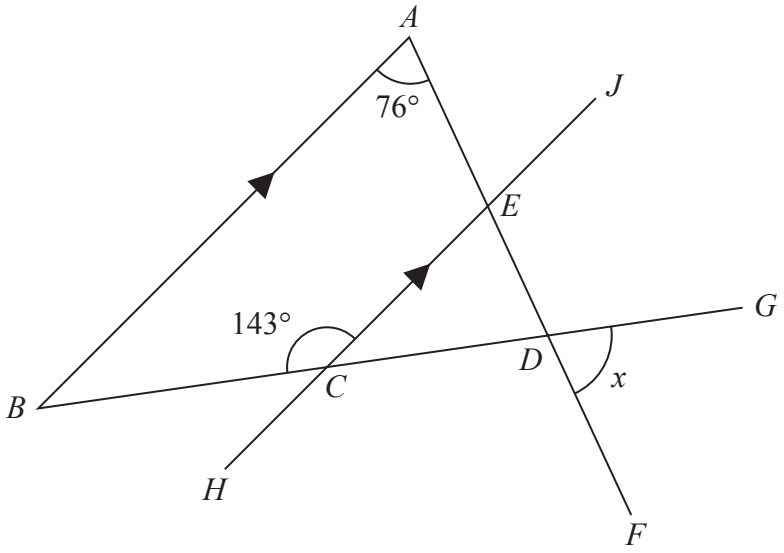


Diagram **NOT** accurately drawn

ABD is a triangle.

AEDF, *BCDG* and *HCEJ* are straight lines.
BA is parallel to *HCEJ*.

Work out the size of the angle marked *x*.

.....°

(Total for Question 13 is 3 marks)

14

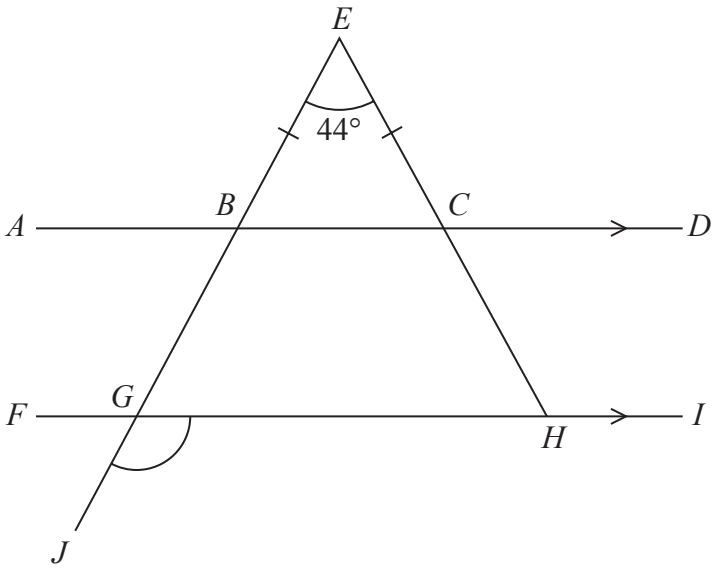


Diagram **NOT** accurately drawn

ABCD and *FGHI* are parallel straight lines.
EBGJ and *ECH* are straight lines.

BE = *CE*
Angle *BEC* = 44°

Work out the size of angle *JGH*.
Give a reason for each stage of your working.

.....
°

(Total for Question 14 is 5 marks)

15

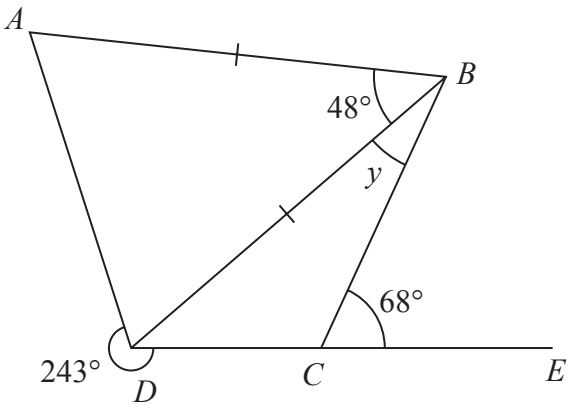


Diagram **NOT** accurately drawn

ABD is an isosceles triangle with *AB* = *DB*.
DCE is a straight line.

Angle *ABD* = 48°
Angle *BCE* = 68°
Reflex angle *ADC* = 243°

Work out the size of the angle marked *y*.
Give a reason for each stage in your working.

°

(Total for Question 15 is 5 marks)

16

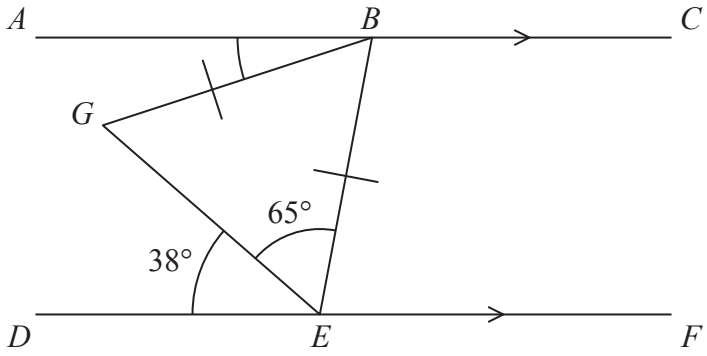


Diagram **NOT** accurately drawn

ABC and *DEF* are parallel lines.

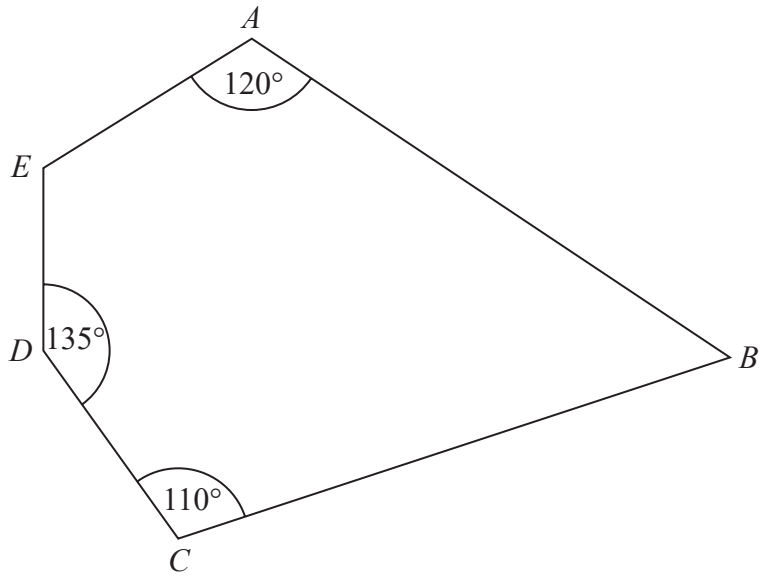
BG = *BE*
Angle *DEG* = 38°
Angle *GEB* = 65°

Find the size of angle *ABG*.

.....

(Total for Question 16 is 3 marks)

17 Here is a pentagon.



Angle $AED = 4 \times$ angle ABC

Work out the size of angle AED.
You must show all your working.

.....°

(Total for Question 17 is 4 marks)

18

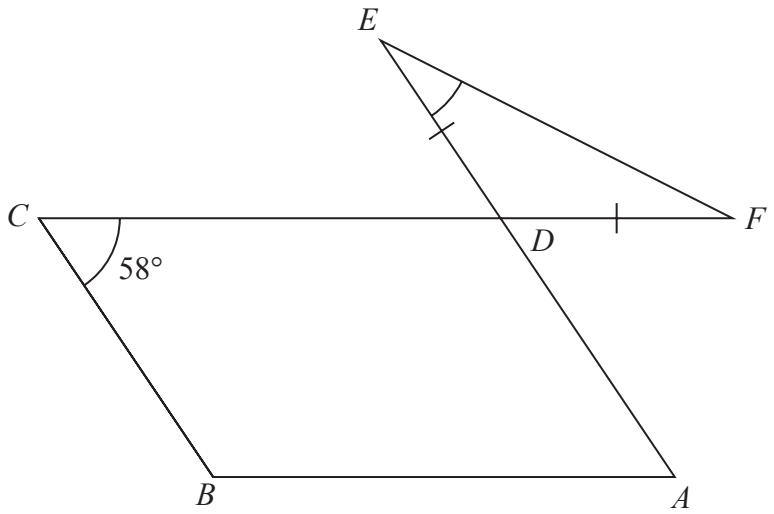


Diagram **NOT** accurately drawn

The diagram shows a parallelogram *ABCD* and an isosceles triangle *DEF* in which *DE* = *DF*

CDF and *ADE* are straight lines.
Angle *BCD* = 58°

Work out the size of angle *DEF*.
Give a reason for each stage of your working.

.....°

(Total for Question 18 is 5 marks)

19 The diagram shows a triangle.

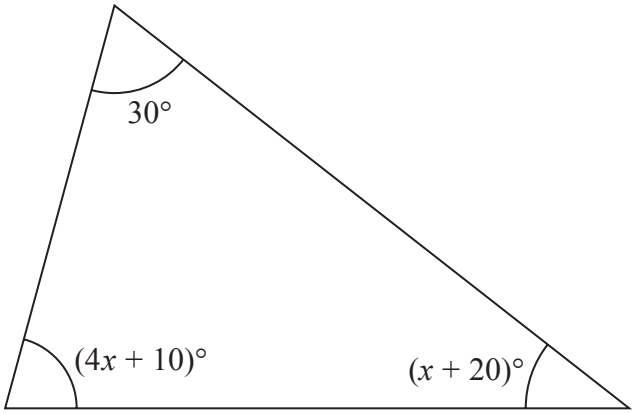


Diagram **NOT** accurately drawn

Work out the value of x.

$x =$ .....

(Total for Question 19 is 4 marks)

20 The diagram shows the triangle PQR.

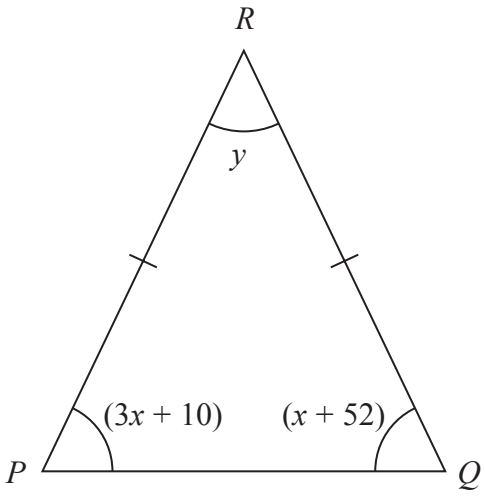


Diagram **NOT** accurately drawn

In the diagram, all the angles are in degrees.

$RP = RQ$

Find the value of y.
Show clear algebraic working.

$y =$

(Total for Question 20 is 4 marks)

21 *ABCD* is a trapezium.

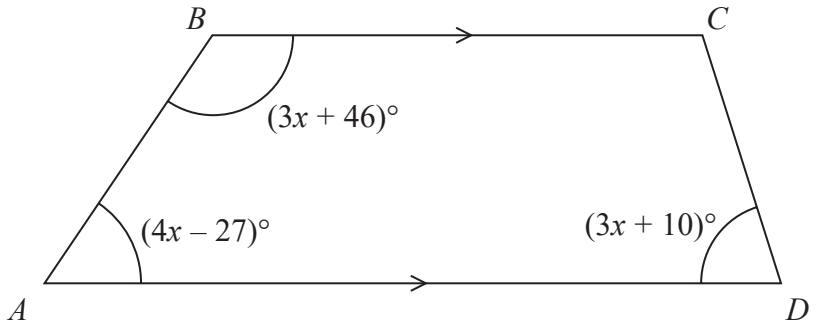


Diagram **NOT** accurately drawn

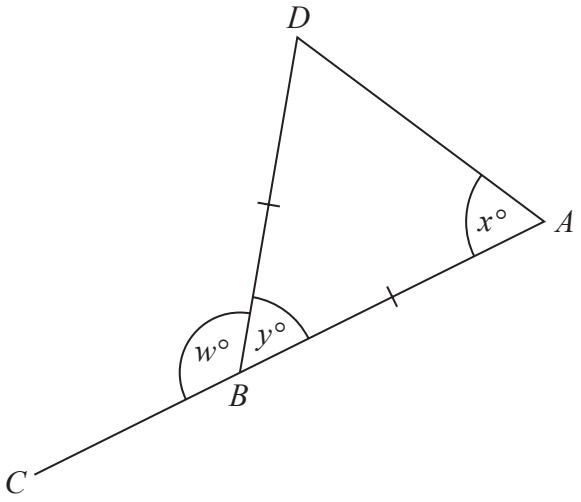
BC is parallel to *AD*

Find the size of the largest angle inside the trapezium.

.....°

(Total for Question 21 is 4 marks)

22 The diagram shows an isosceles triangle ABD and the straight line ABC.



$BA = BD$

$x : y = 2 : 1$

Work out the value of w.

$w =$ .....

(Total for Question 22 is 4 marks)