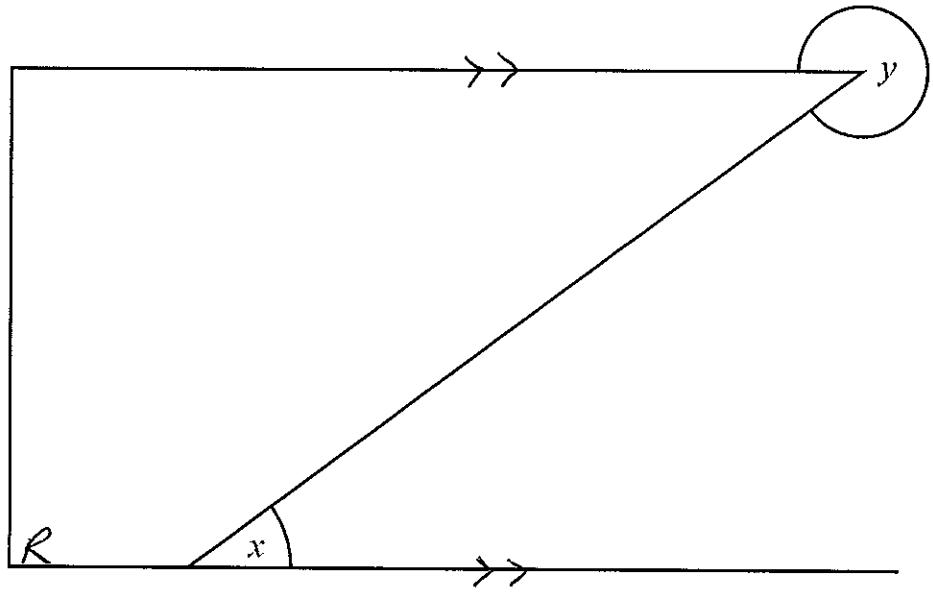
1. The lines in the diagram are straight.



(a) Mark with arrows, (>>), a pair of parallel lines.

(1)

(b) Mark with the letter R, a right angle.

(1)

(c) What type of angle is shown by the letter

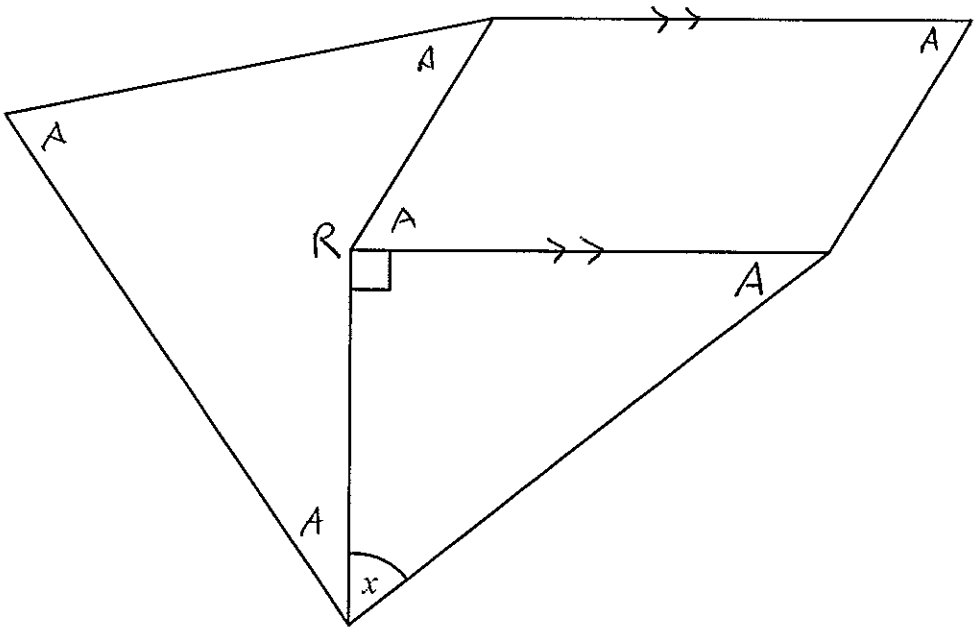
(i) x, ...acute.....

(ii) y. .....reflex.....

(2)

(Total 4 marks)

2. The shape is made from a right-angled triangle, a parallelogram and a quadrilateral.



(a) Mark with arrows (») a pair of parallel lines.

(1)

(b) Mark with the letter *A* an acute angle.

(1)

(c) Mark with the letter *R* a reflex angle.

(1)

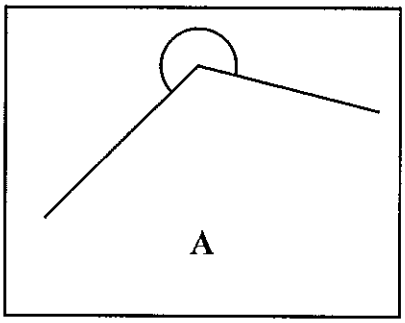
(d) Measure the size of angle x.

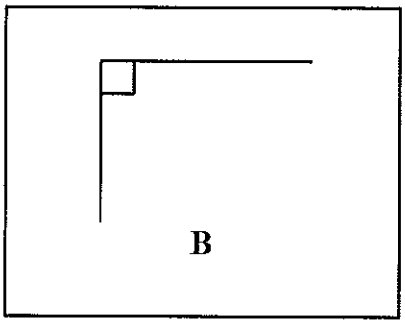
.....52.....°

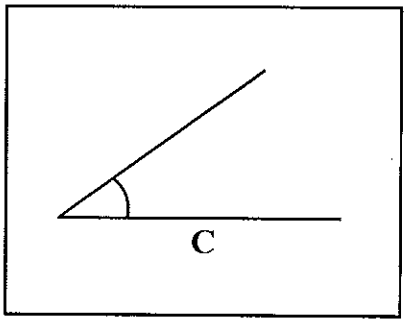
(1)

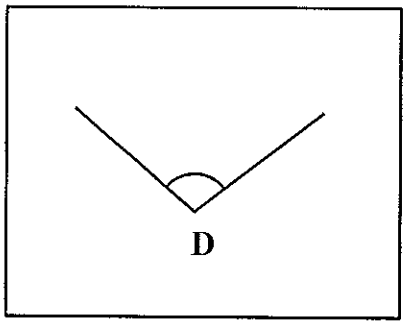
(Total 4 marks)

3.









One of the four angles marked in the diagrams above is an obtuse angle.

(a) Write down the letter of the diagram in which the obtuse angle is marked.

D

(1)

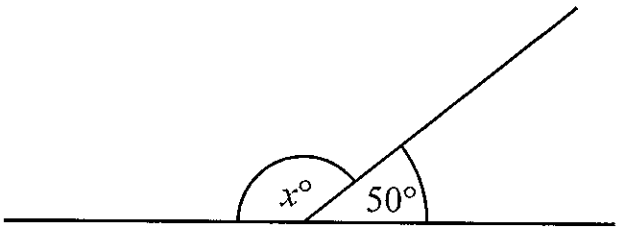


Diagram **NOT** accurately drawn

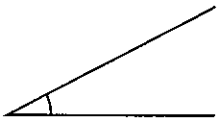
(b) Work out the size of the angle marked $x°$.

130 °

(2)

(Total 3 marks)

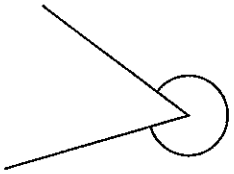
4. (a) Write down the special name for this type of angle.



acute

(1)

(b) Write down the special name for this type of angle.



reflex

(1)

(c)

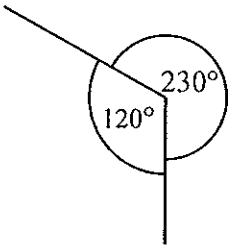


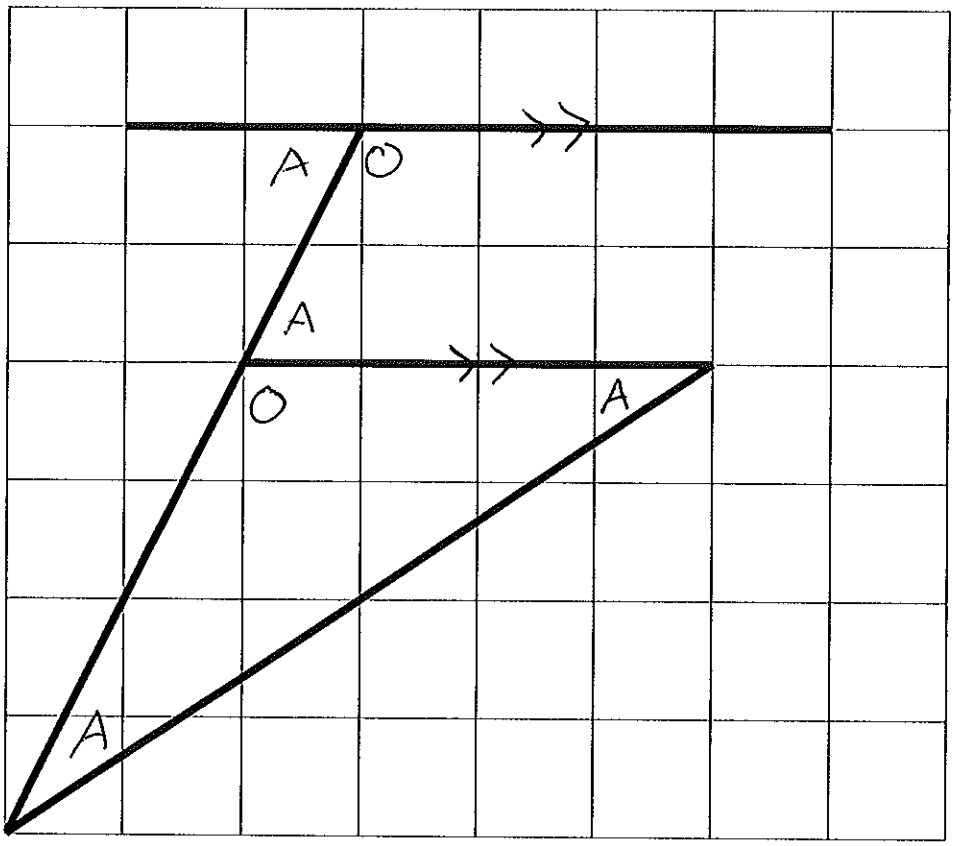
Diagram **NOT** accurately drawn

This diagram is wrong.
Explain why

angles around a point should add up to 360°

(1)
(Total 3 marks)

5. Here is a diagram drawn on a square grid.



(a) Mark, with arrows (>>), a pair of parallel lines.

(1)

(b) Mark, with the letter A, an acute angle.

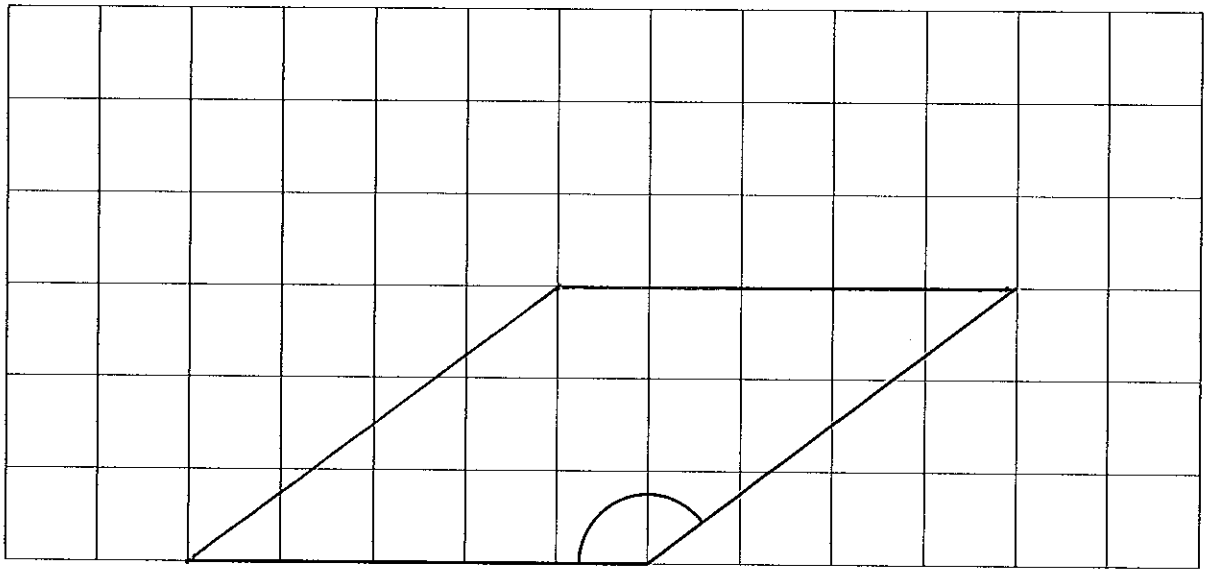
(1)

(c) Mark, with the letter O, an obtuse angle.

(1)

(Total 3 marks)

6. The diagram shows two sides of a rhombus drawn on a grid of centimetre squares.



(a) (i) Measure the size of the angle between these two sides.

.....143.....°

(ii) What type of angle have you measured?

..obtuse.....

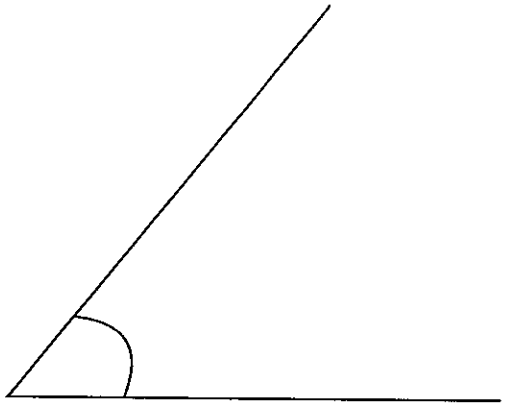
(2)

(b) Complete accurately the drawing of the rhombus.

(1)

(Total 3 marks)

7. The diagram shows an angle.



(a) Write down the special name for this type of angle.

.....acute.....

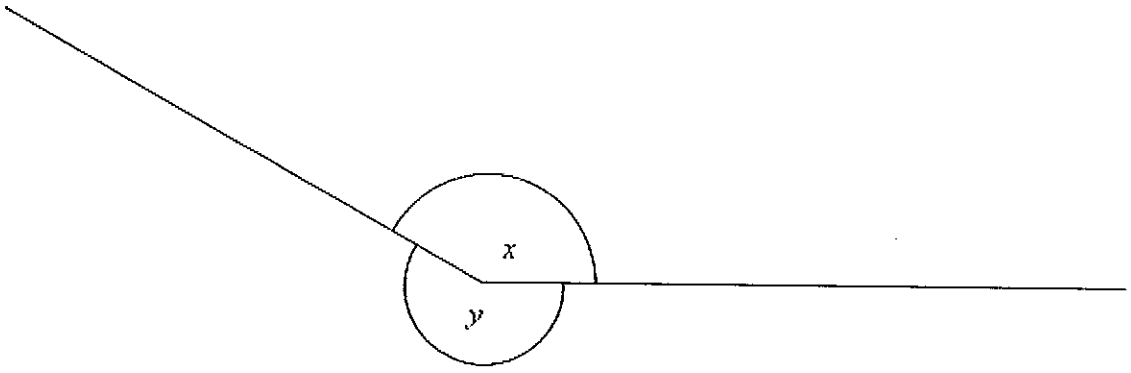
(1)

(b) Measure the size of the angle.

.....51.....°

(1)
(Total 2 marks)

8.



(a) Measure the size of the angle marked x.

.....150.....°

(1)

(b) What type of angle is shown by the letter y ?

.....reflex.....

(1)
(Total 2 marks)

1.

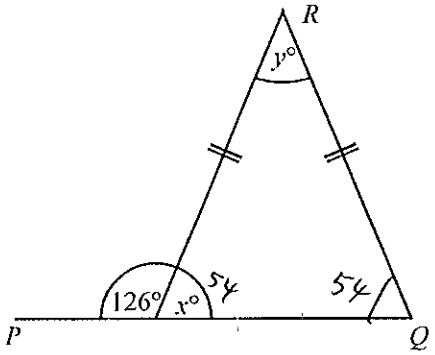


Diagram **NOT** accurately drawn

PQ is a straight line.

(a) Work out the size of the angle marked $x°$.

54 °

(1)

(b) (i) Work out the size of the angle marked $y°$.

72 °

(ii) Give reasons for your answer.

angles at the base of an isosceles triangle are equal.

(3)

(4 marks)

2.

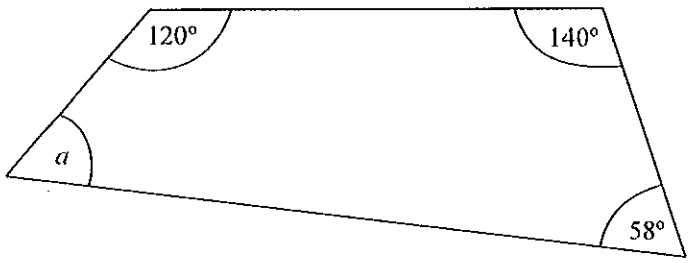


Diagram **NOT** accurately drawn

Work out the size of the angle a.

42 °

(2 marks)

3.

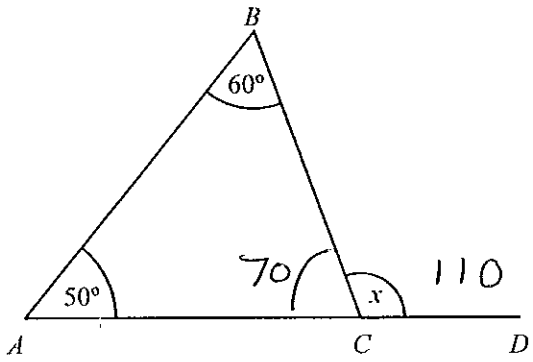


Diagram **NOT** accurately drawn

In the diagram, ABC is a triangle.
ACD is a straight line.
Angle $CAB = 50°$.
Angle $ABC = 60°$.

Work out the size of the angle marked x.

.....110..... °

(2 marks)

4.

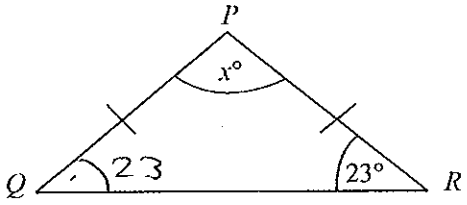


Diagram **NOT** accurately drawn

PQR is an isosceles triangle.

$PQ = PR$.
Angle $R = 23°$.

Work out the value of x.

$x =$ .....134.....

(2 marks)

5.

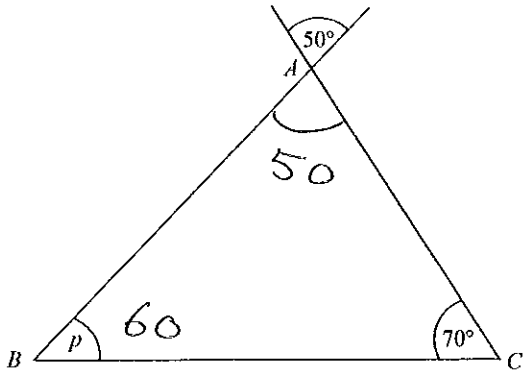


Diagram **NOT** accurately drawn

ABC is a triangle.

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

$p =$ ....60.....°

(2 marks)

6.

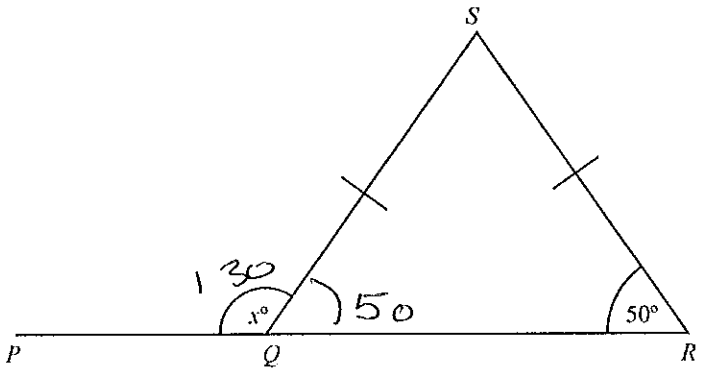


Diagram **NOT** accurately drawn

PQR is a straight line.
SQ = *SR*.

(i) Work out the size of the angle marked $x°$

.....130.....°

(ii) Give reasons for your answer.

.....Angles.....at.....the.....base.....of.....an.....isosceles

triangle.....are.....equal.....Angles.....on.....a.....straight

line.....add.....up.....to.....180°

(3 marks)

7.

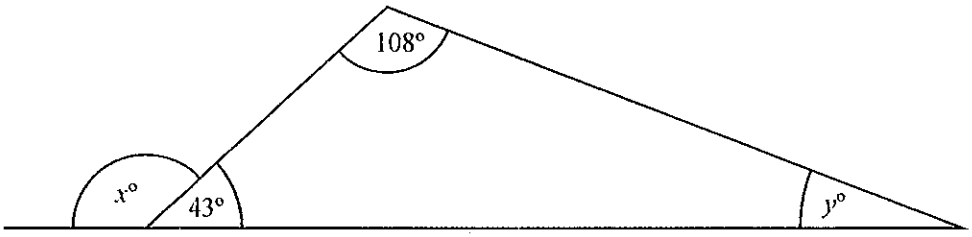


Diagram **NOT** accurately drawn

(a) Work out the value of x.

$x =$ 137

(1)

(b) Work out the value of y.

$y =$ 29

(2)

(3 marks)

8.

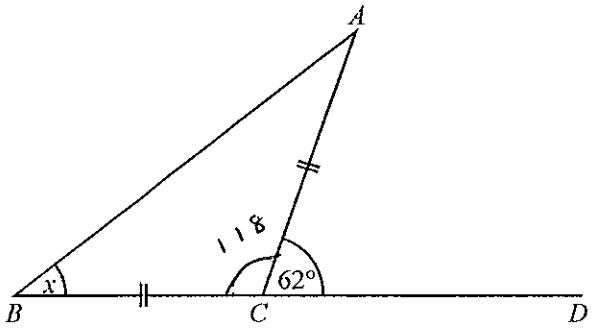


Diagram **NOT** accurately drawn

Triangle ABC is isosceles, with $AC = BC$.

Angle $ACD = 62^0$.

BCD is a straight line.

Work out the size of angle x.

$x =$ 31 ^{0}

(2 marks)

9.

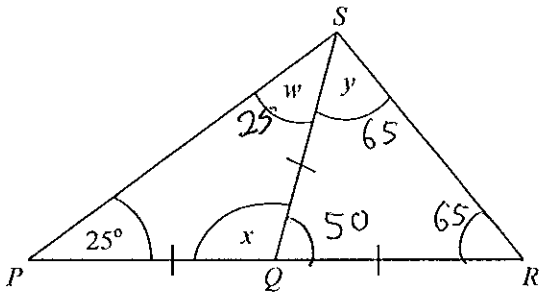


Diagram **NOT** accurately drawn

PQR is a straight line.

$PQ = QS = QR$.

Angle $SPQ = 25°$.

(a) (i) Write down the size of angle w.

25 °

(ii) Work out the size of angle x.

130 °

(2)

(b) Work out the size of angle y.

65 °

(2)

(4 marks)

10.

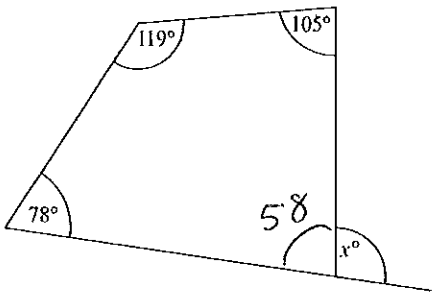


Diagram **NOT** accurately drawn

Work out the value of x.

$x =$ 122

(3 marks)

11.

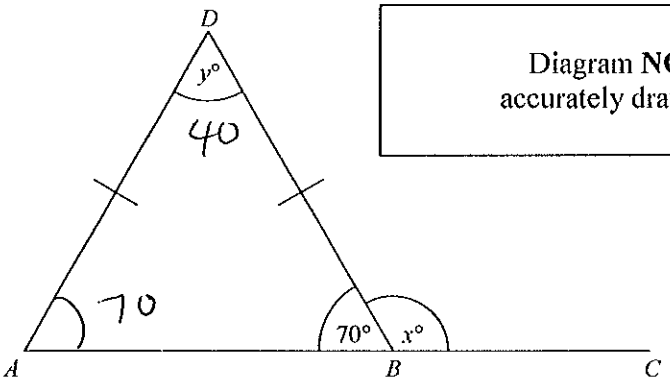


Diagram **NOT** accurately drawn

ABD is a triangle. *ABC* is a straight line.
Angle *ABD* = 70°.
AD = *BD*.

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

x = 110

(ii) Give a reason for your answer.

angles on a straight line add to 180°

(2)

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

y = 40

(ii) Give a reason for your answer.

angles at the base of an isosceles triangle are equal
angles in a triangle add up to 180°

(3)

(5 marks)

12.

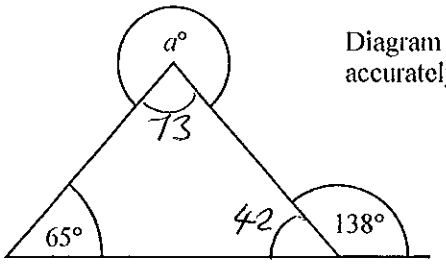


Diagram **NOT** accurately drawn

Work out the value of *a*.

a = 287

(3 marks)

13.

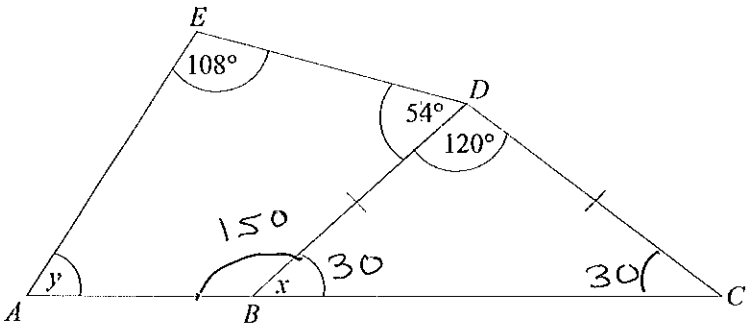


Diagram **NOT** accurately drawn

In the diagram, ABC is a straight line and $BD = CD$.

(a) Work out the size of angle x.

30 °

(2)

(b) Work out the size of angle y.

48 °

(3)

(5 marks)

1.

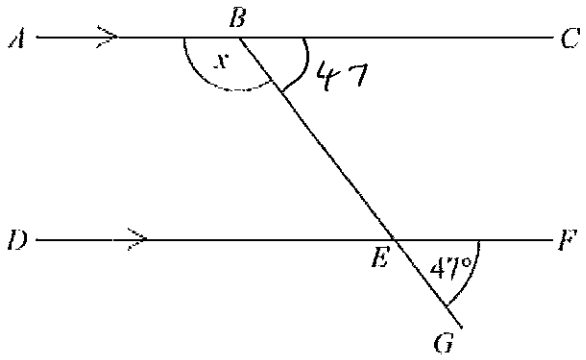


Diagram **NOT** accurately drawn

ABC and *DEF* are parallel lines.
BEG is a straight line.
Angle *GEF* = 47°.

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

Give reasons for your answer.

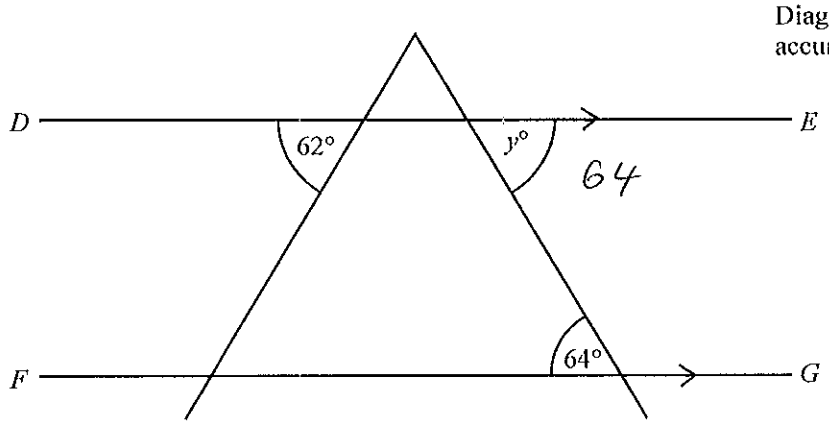
$C\hat{B}E = 47°$ corresponding angles are equal

$x = 133°$ Angles on a straight line add up to 180°

133 .....°

(3 marks)

2.



DE is parallel to *FG*.

(i) Find the size of the angle marked $y°$.

64 °

(1)

(ii) **Give a reason for your answer.**

alternate angles are equal

(2)

(3 marks)

3.

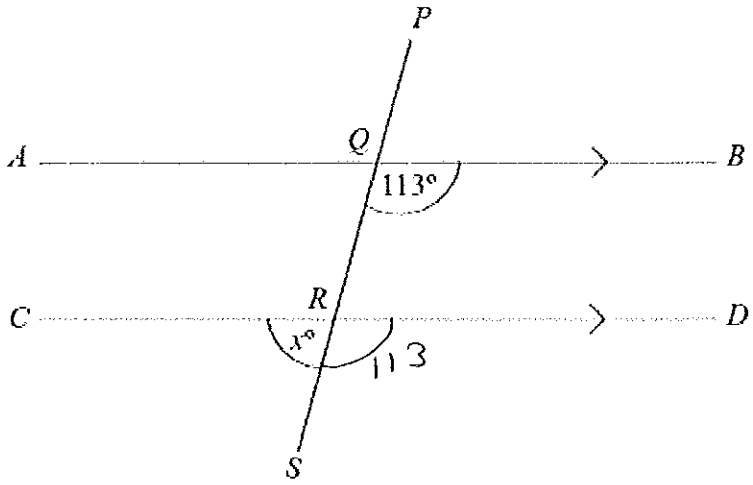


Diagram **NOT** accurately drawn

AQB, *CRD* and *PQRS* are straight lines.

AB is parallel to *CD*.

Angle *BQR* = 113°.

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

x = 67

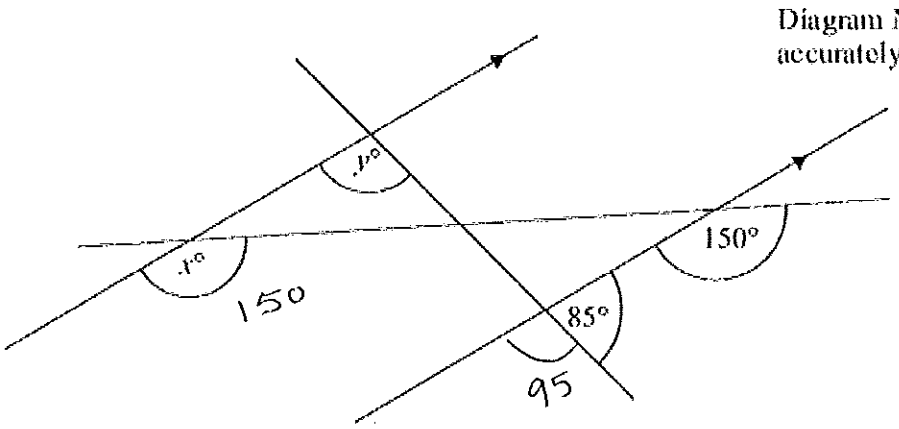
(b) Give reasons for your answer.

corresponding angles are equal

angles on a straight line add up to 180°

(4 marks)

4.



(a) i) Find the value of x.

150

(1)

ii) Give reasons for your answer.

Corresponding angles are equal

(1)

(b) i) Find the value of y.

95°

(2)

ii) Give reasons for your answer.

angles on a straight line add up to 180°
corresponding angles are equal

(2)

(6 marks)

*5.

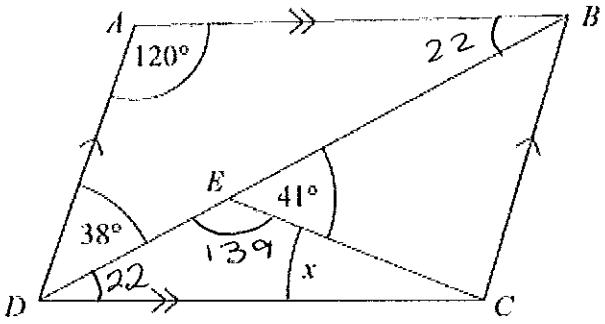


Diagram **NOT** accurately drawn

ABCD is a parallelogram.

Angle *ADB* = 38°.
Angle *BEC* = 41°.
Angle *DAB* = 120°.

Calculate the size of angle *x*.
You must give reasons for your answer.

$A\hat{B}D = 22°$ (Angles in a triangle add up to 180°)

$B\hat{D}C = 22°$ (Alternate angles are equal)

$C\hat{E}D = 139°$ (Angles on a straight line add up to 180°)

$x = 19°$ (Angles in a triangle add up to 180°)

(4 marks)

*6.

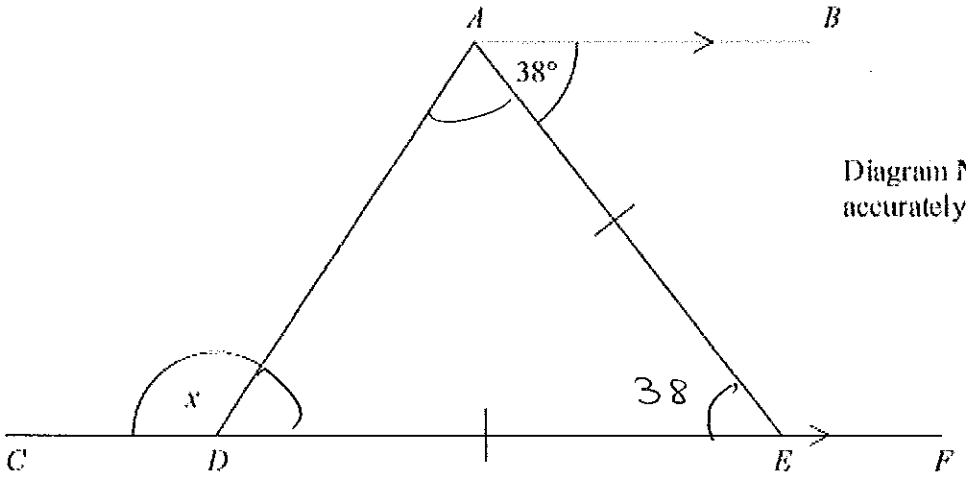


Diagram **NOT** accurately drawn

CDEF is a straight line.
AB is parallel to *CF*.
DE = *AE*.

Work out the size of the angle marked *x*.
You must give reasons for your answer.

$A\hat{E}D = 38°$ Alternate angles are equal

$A\hat{D}E$ and $D\hat{A}E = 71°$ (Angles at base of isosceles are equal)

$x = 109°$ (Angles on a straight line add up to 180°)

(4 marks)

*7.

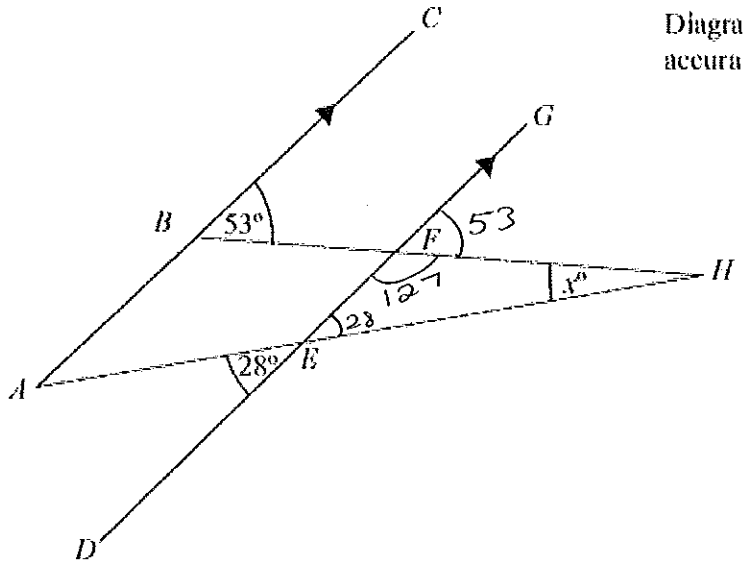


Diagram **NOT** accurately drawn

ABC and *DEFG* are parallel.
AEH and *BFH* are straight lines.
Work out the size of the angle marked $x°$.

$\hat{GEH} = 28°$ opposite angles are equal

$\hat{GFH} = 53°$ alternate angles are equal

$\hat{EFH} = 127$ angles on a straight line add to 180°

$x = 25°$ angles in a triangle add to 180°

25 .....°

(3 marks)

1. Each exterior angle of a regular polygon is 30°.

Work out the number of sides of the polygon.

$\frac{360}{30} = 12$

12

(2 marks)

2.

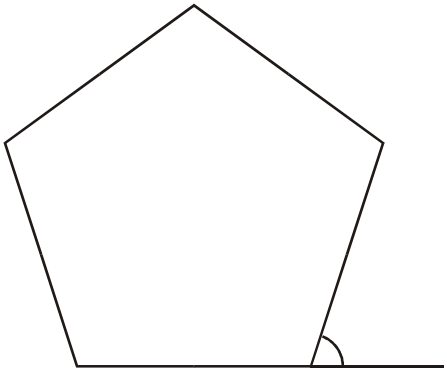


Diagram **NOT** accurately drawn

Work out the size of an exterior angle of a regular pentagon.

$\frac{360}{5}$

72 °

(2 marks)

3.

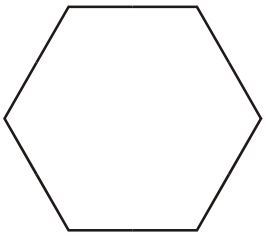


Diagram **NOT** accurately drawn

Calculate the size of the exterior angle of a regular hexagon.

$\frac{360}{6}$

60 °

(2 marks)

4. The size of each exterior angle of a regular polygon is 40°.

Work out the number of sides of the regular polygon.

$\frac{360}{40}$

..... 9 .....

(2 marks)

5. The size of each interior angle of a regular polygon is 156°.
Work out the number of sides of the polygon.

Ext angle = 180 - 156
= 24

$\frac{360}{24} = 15$

..... 15 .....

(3 marks)

6. Here is a regular polygon with 9 sides.

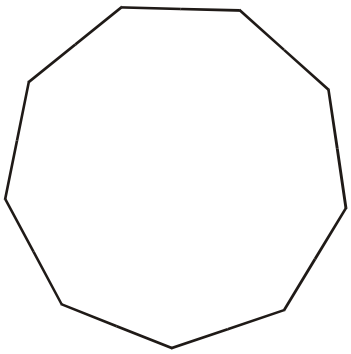


Diagram **NOT** accurately drawn

Work out the size of an exterior angle.

$\frac{360}{9} = 40°$

..... 40 .....°

(2 marks)

7.

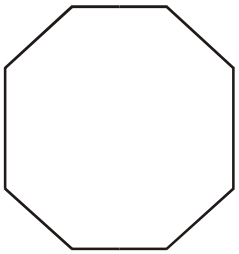


Diagram **NOT** accurately drawn

OR

$\frac{360}{8} = 45$

$180 - 45 = 135$

(a) Work out the size of each interior angle of a regular octagon.

$(n-2) \times 180$

$(8-2) \times 180$

6×180

$1080 \div 8$

135

~~1080~~

.....

(3)

The size of each exterior angle of a regular polygon is 30^0

(b) Work out the number of sides of the polygon.

$\frac{360}{30}$

12

.....

(2)

(5 marks)

8.

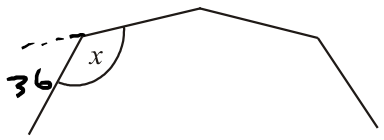


Diagram **NOT** accurately drawn

The diagram shows part of a **regular** 10-sided polygon.

Work out the size of the angle marked x.

ext angle $= \frac{360}{10} = 36$

$180 - 36 = 144$

144 .....°

(3 marks)

9.

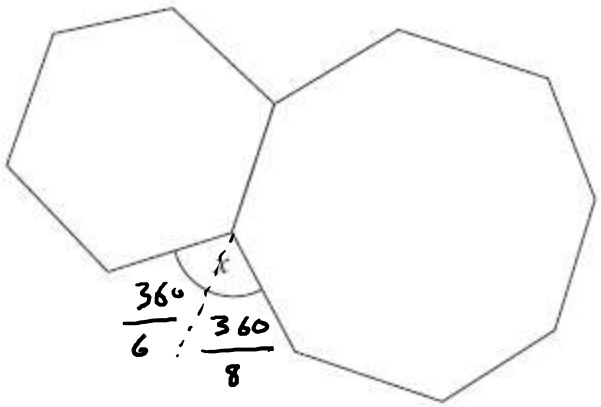


Diagram **NOT** accurately drawn

The diagram shows a regular hexagon and a regular octagon.

Calculate the size of the angle marked x.
You must show all your working.

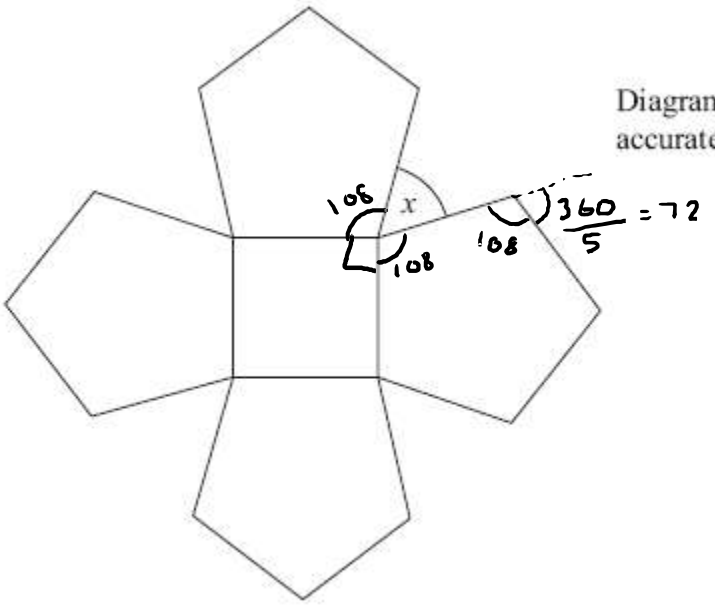
$\frac{360}{6} + \frac{360}{8}$

$60 + 45$

105 .....°

(4 marks)

10.



The diagram shows a square and 4 regular pentagons.

Work out the size of the angle marked x.

360 − 108 − 108 − 90

54 °

(4 marks)

11.

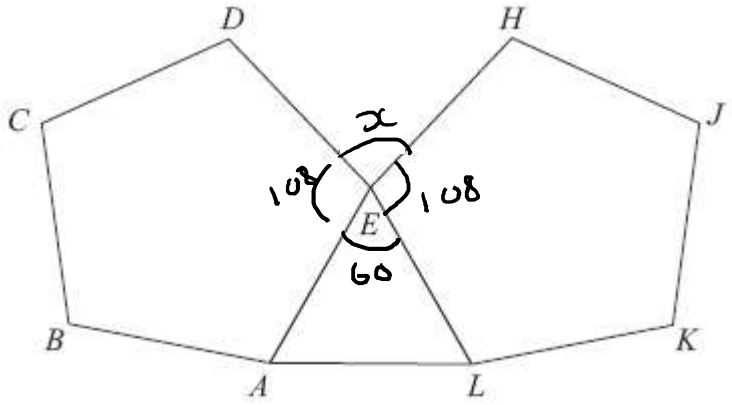


Diagram **NOT** accurately drawn

ABCDE and *EHJKL* are regular pentagons.
AEL is an equilateral triangle.

Work out the size of angle *DEH*.

360 − 108 − 108 − 60

84 .....°

(4 marks)

12. The diagram shows part of a pattern made from tiles.

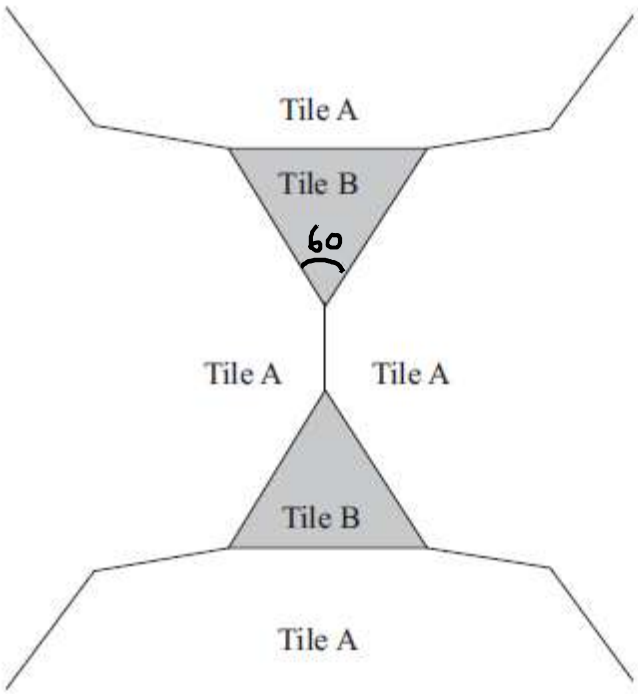


Diagram **NOT** accurately drawn

The pattern is made from two types of tiles, tile A and tile B.

Both tile A and tile B are regular polygons.

Work out the number of sides tile A has.

$360 - 60 = 300$

interior angle $= \frac{300}{2} = 150^\circ$

exterior angle $= 180 - 150 = 30$

$\frac{360}{30} = 12$

12

(4 marks)

1.

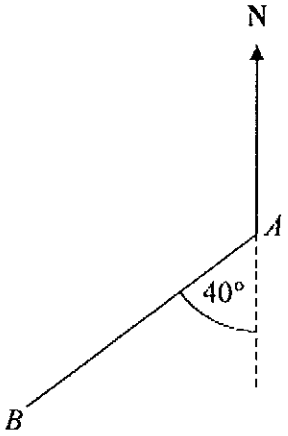


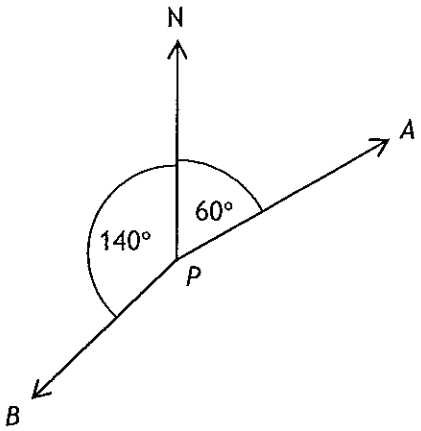
Diagram **NOT** accurately drawn

Work out the bearing of B from A.

220 °

(2 marks)

2.



(a) Write down the bearing of A from P.

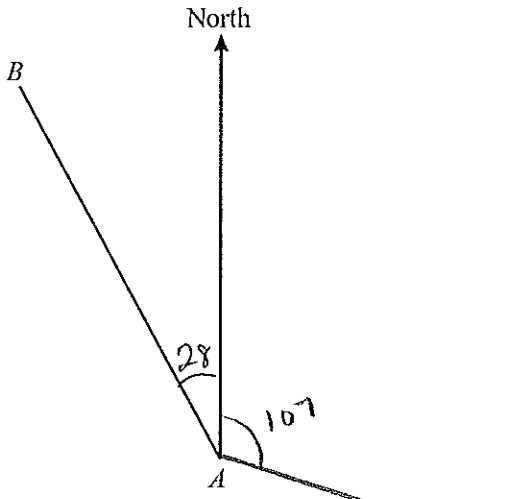
060 °

(b) Work out the bearing of B from P.

220 °

(3 marks)

3.



(a) Measure and write down the bearing of B from A.

.....332.....°

(1)

(b) On the diagram, draw a line on a bearing of 107° from A.

(1)

(2 marks)

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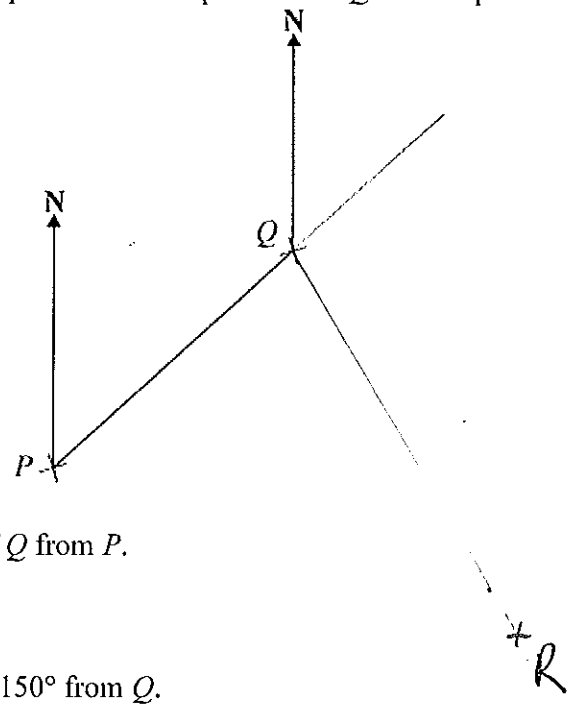
4. The diagram shows the position of two ports P and Q on a map.



(a) Measure the bearing of Q from P.

048°

(1)

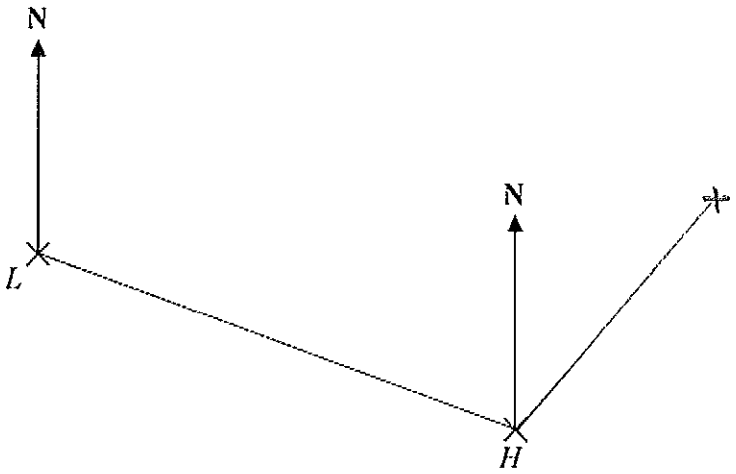
A rock R is on a bearing of 150° from Q.
On the map R is 6 cm from Q.

(b) Mark the position of R with a cross (×) and label it R.

(2)

(3 marks)

5. The diagram shows the position of a lighthouse L and a harbour H.



The scale of the diagram is 1 cm represents 5 km.

(a) Work out the real distance between L and H.

6.8 x 5

34 km

(1)

(b) Measure the bearing of H from L.

(Between 33 and 35)

110 °

(1)

A boat B is 20 km from H on a bearing of 040°

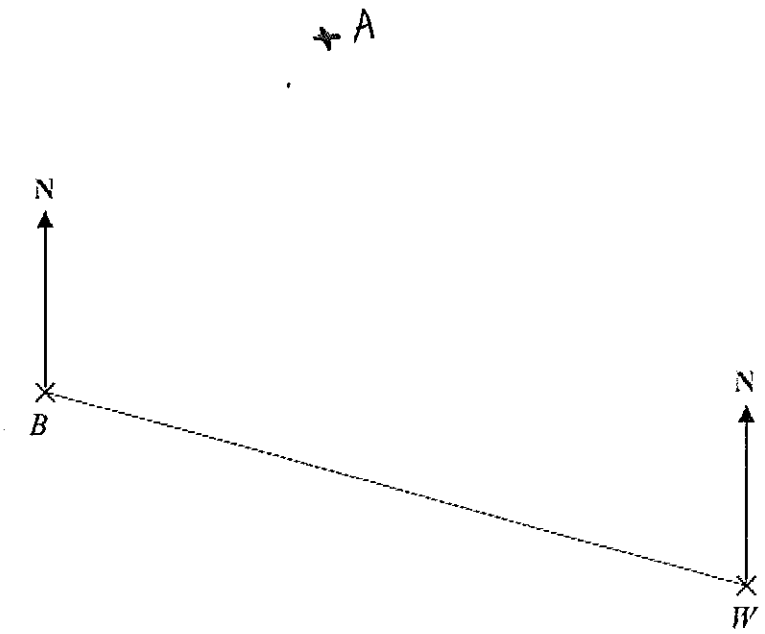
(c) On the diagram, mark the position of boat B with a cross (×).

Label it B.

(2)

(4 marks)

6. The diagram shows the positions of two villages, Beckhampton (B) and West Kennett (W).



Scale: 4 cm represents 1 km.

(a) Work out the real distance, in km, of Beckhampton from West Kennett.

9.6 cm

.....2.4..... km
(2)

The village, Avebury (A), is on a bearing of 038° from Beckhampton.

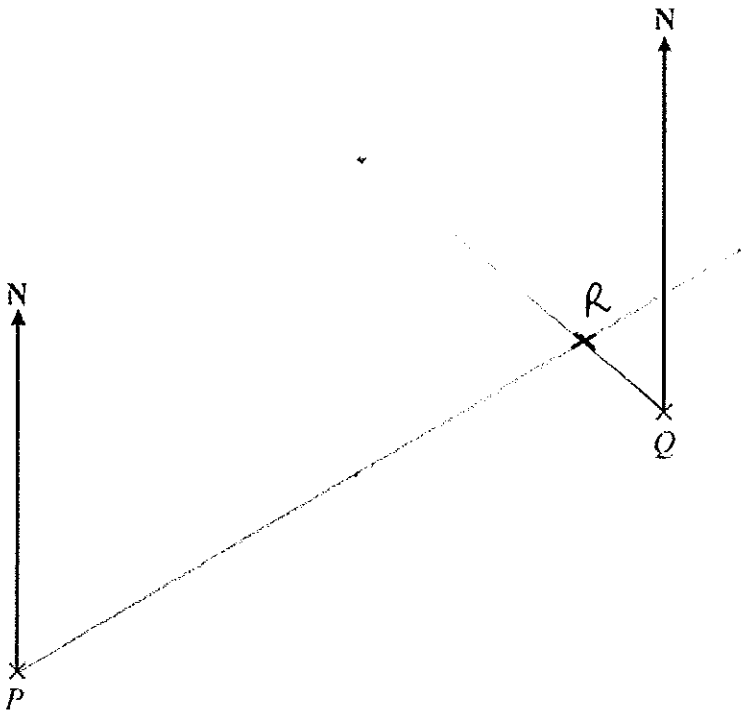
On the diagram, A is 6 cm from B.

(b) On the diagram, mark A with a cross (×).
Label the cross A.

(2)

(4 marks)

7. The diagram shows the position of two boats, P and Q.

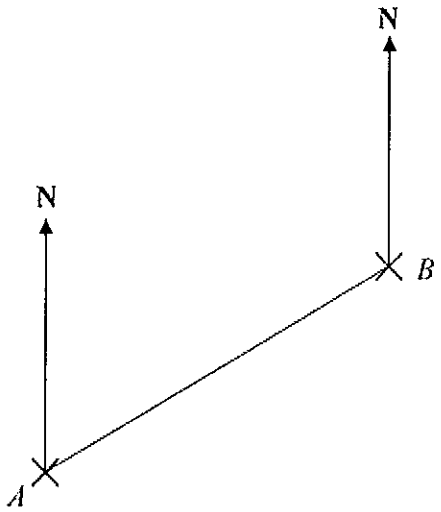


The bearing of a boat R from boat P is 060^0
The bearing of boat R from boat Q is 310^0

In the space above, draw an accurate diagram to show the position of boat R.
Mark the position of boat R with a cross (×). Label it R.

(3 marks)

8. The diagram shows the positions of two telephone masts, A and B, on a map.



(a) Measure the bearing of B from A.

059 °

(1)

Another mast C is on a bearing of 160° from B.

On the map, C is 4 cm from B.

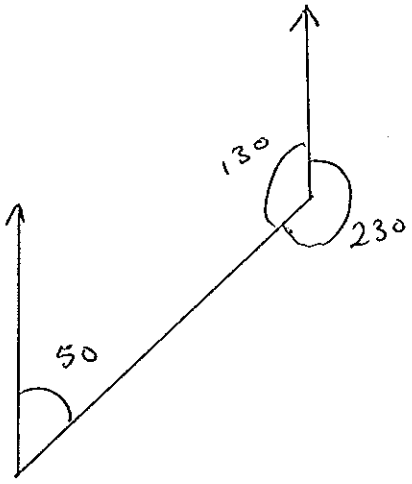
(b) Mark the position of C with a cross (×) and label it C.

(2)

(3 marks)

9. The bearing of a ship from a lighthouse is 050°

Work out the bearing of the lighthouse from the ship.



(Not drawn to scale.)

230 °

(2 marks)