1. Find the values of the angles marked *x*, *y* and *z*.

....

....
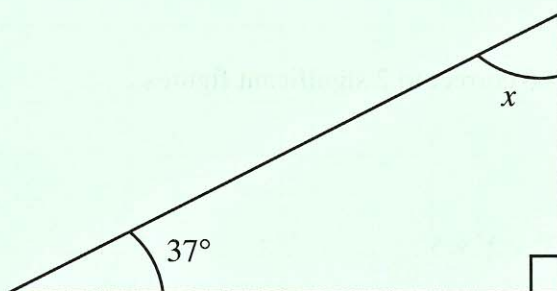
$x =$ ....°

[2]

....

....

....
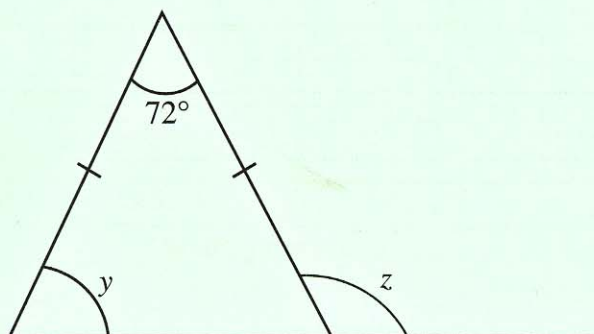
$y =$ ....° $z =$ ....°

[3]

4. Find the values of the angles marked x and y.

$x =$ .... $^\circ$ $y =$ .... $^\circ$

[3]
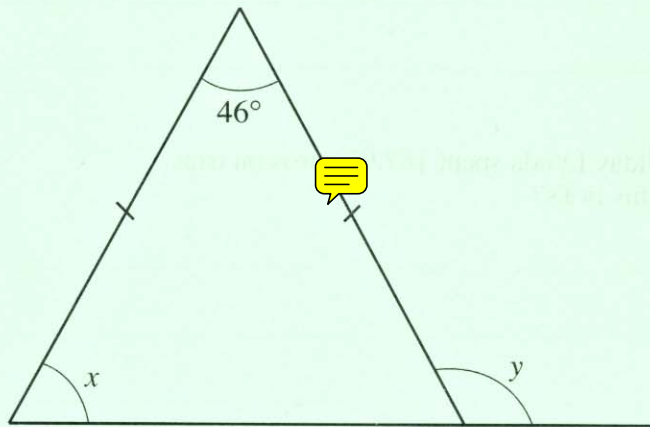
6. Find the angles marked x and y in the following diagrams.

110°

40°

x

$x = $ .... °   [1]

104°

66°

48°

y
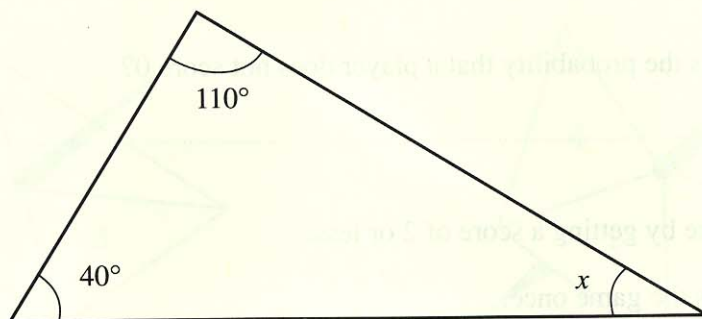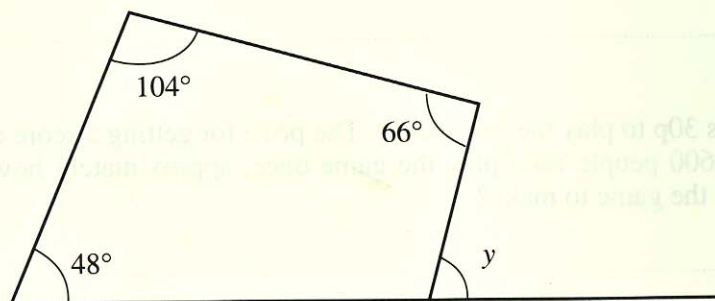
$y = $ .... °   [2]

2. *(a)* Find the value of the angle marked *x*.
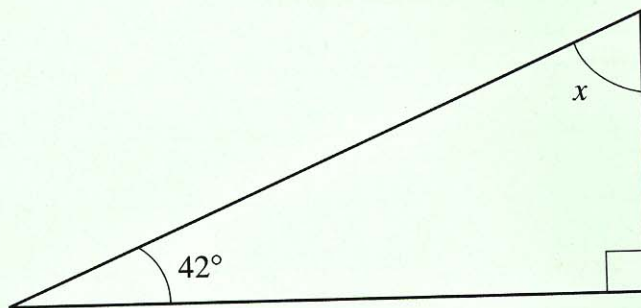
Diagram not drawn to scale.

....

....

....

$$x = \text{..........................}°$$

[2]

(b) Find the value of the angle marked *y*.
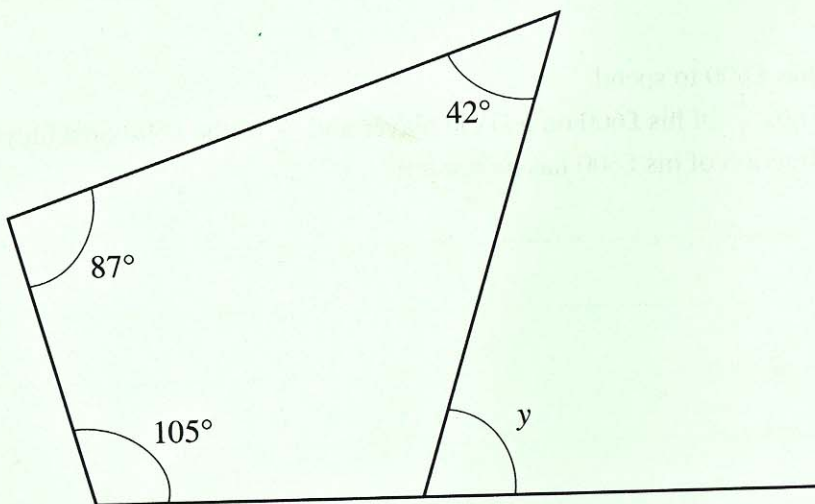
Diagram not drawn to scale.

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$$y = \text{..........................}°$$

[3]

11. The diagram shows the parallelogram $ABCD$ in which $A\widehat{D}C = 44°$.
The line AE is drawn so that $B\widehat{A}E = 62°$.
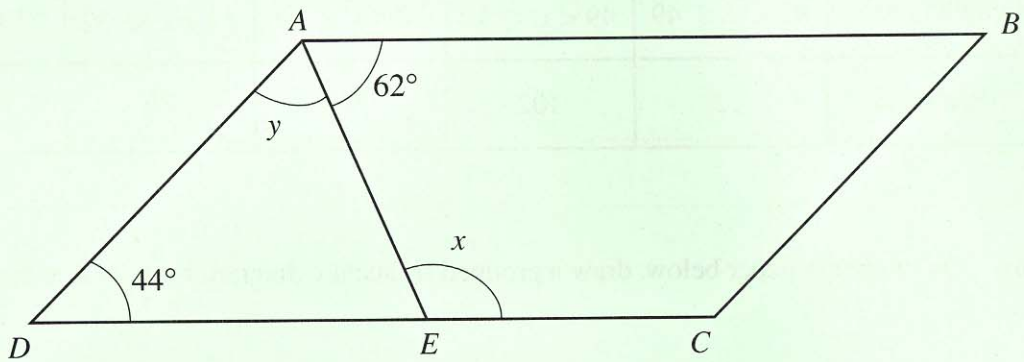
Diagram not drawn to scale.

(a) Find the value of the angle marked x.

....

....

....

....

....

[2]

(b) Find the value of the angle marked y.

....

....

....

[2]

10. In the diagram below, $ABCD$ is a parallelogram in which $D\hat{A}C = 64°$ and $A\hat{B}C = 76°$. The line QR is parallel to the sides AD and BC.
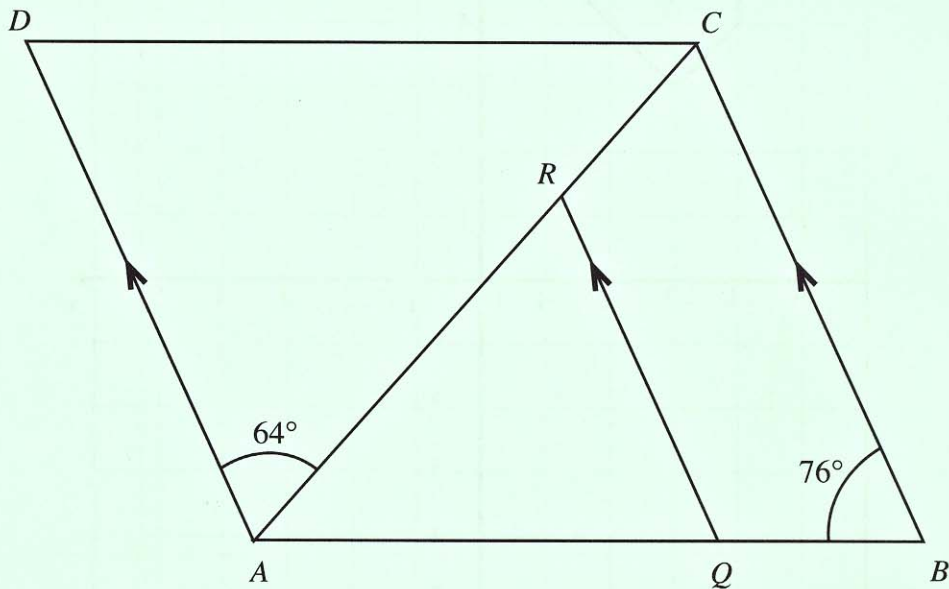
Diagram not drawn to scale.

Find the value of

(a) $C\hat{A}B$,

....

....

....

....

[2]

(b) $C\hat{R}Q$.

....

....

....

....

[2]

2. Find the size of the angle marked x.

84°

155°

110°

x
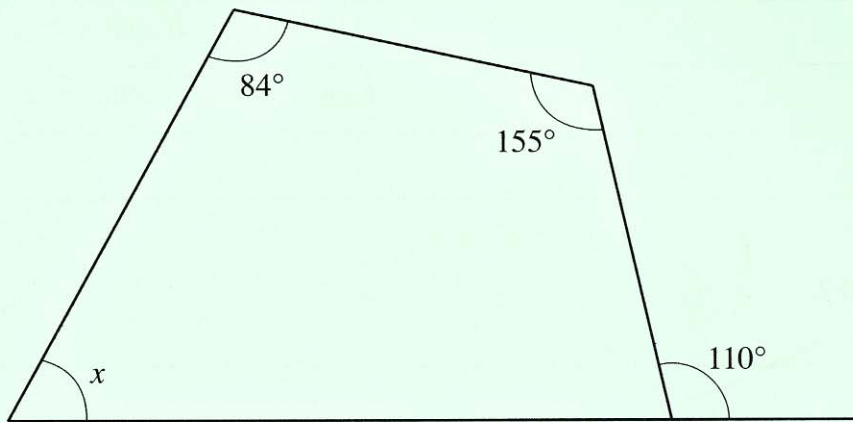
Diagram not drawn to scale.

$x =$ .... °

[2]

8. *ABCD* and *ADEF* are two parallelograms in which $A\hat{D}C = 130°$ and $D\hat{E}F = 60°$. Find $B\hat{A}F$.

Diagram not drawn to scale.

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....

[3]
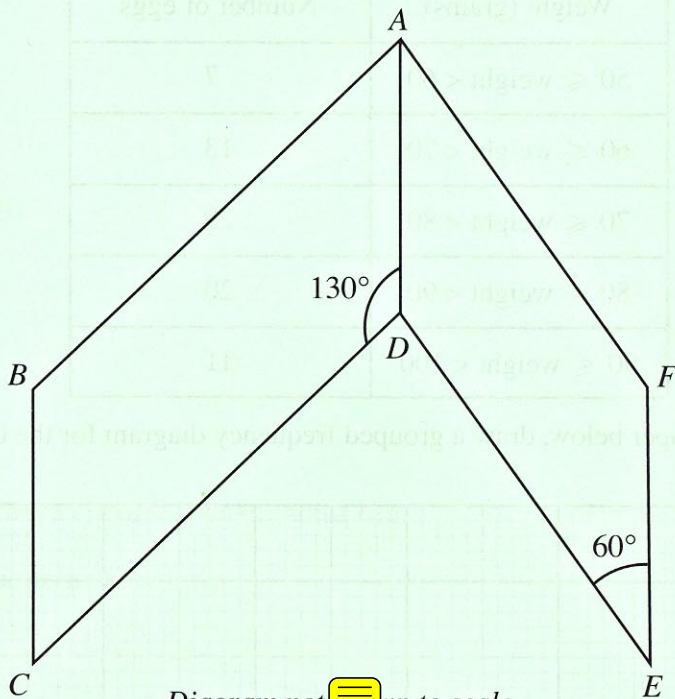
6. *ABCD* is a kite. Calculate the size of the angle marked *x*.

Diagram not drawn to scale.

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....

$x =$ ....°

[3]
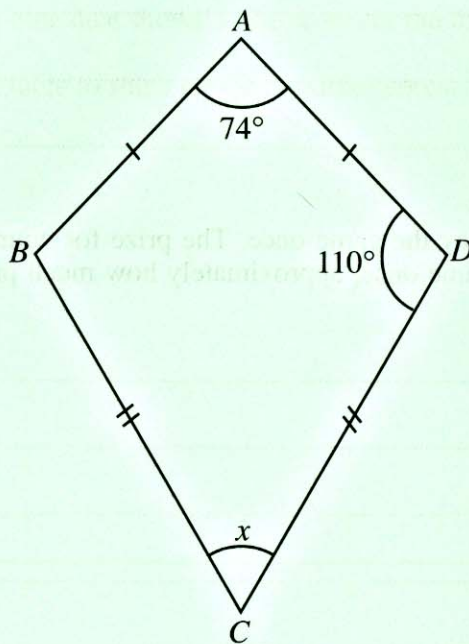
8. *ABCD* is a parallelogram. Its diagonals intersect at the point *E*.

$C\widehat{D}B = 31°$, $D\widehat{E}A = 67°$ and $A\widehat{B}C = 125°$.
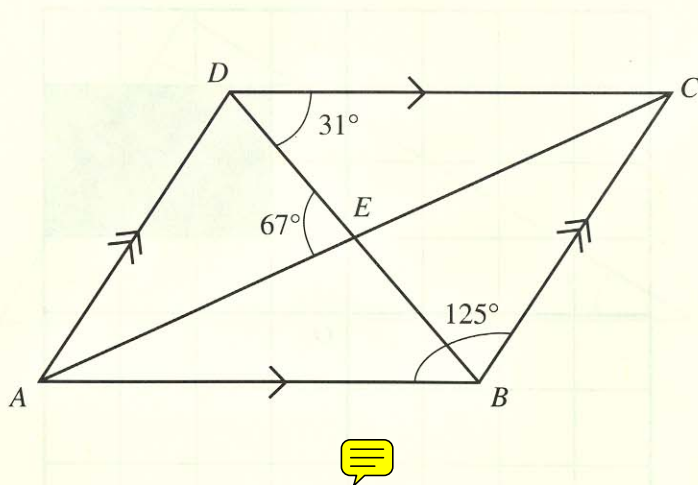
Find the value of

(a) $D\widehat{B}A$,

....

[1]

(b) $D\widehat{B}C$,

....

....

[1]

(c) $E\widehat{A}B$.

....

....

[2]

11. *ABCDE* is a regular pentagon and *BFGH* is a rectangle. They meet at *B* so that *ABF* is a straight line.
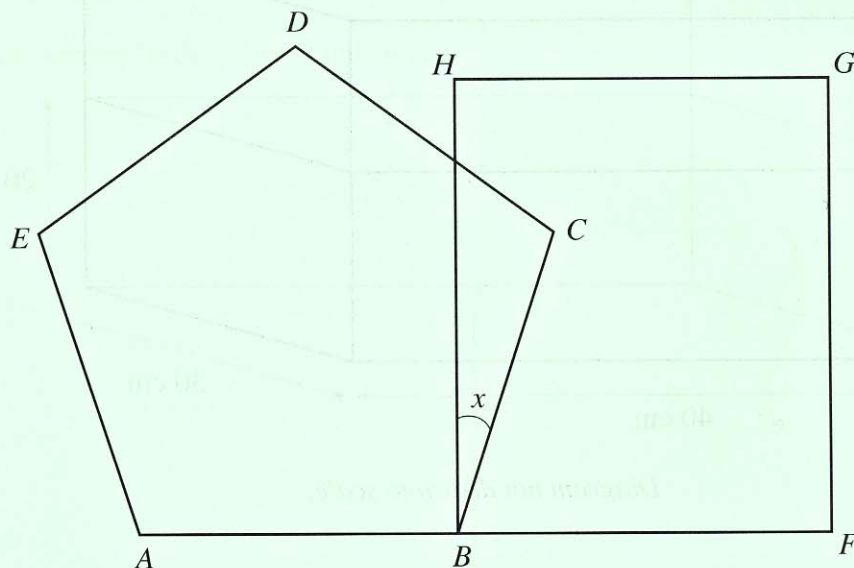
(a) Explain clearly why each of the interior angles of a regular pentagon is 108°.

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[2]

(b) Find the value of the angle marked *x*.

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[2]

18. Explain why the size of each of the exterior angles of a regular polygon cannot be 50°.

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[2]