1.

A

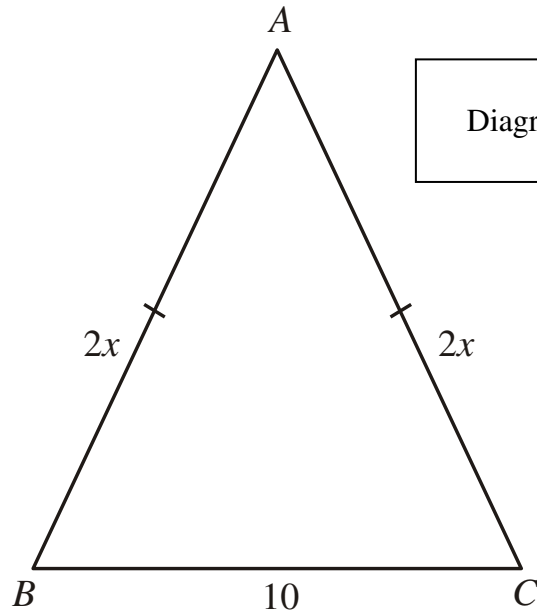Diagram **NOT** accurately drawn

$2x$ $2x$

B   10   C

In the diagram, all measurements are in centimetres.

ABC is an isosceles triangle.
$AB = 2x$
$AC = 2x$
$BC = 10$

(a) Find an expression, in terms of *x*, for the **perimeter** of the triangle.
Simplify your expression.

……………………….

(2)

The perimeter of the triangle is 34 cm.

(b) Find the value of *x*.
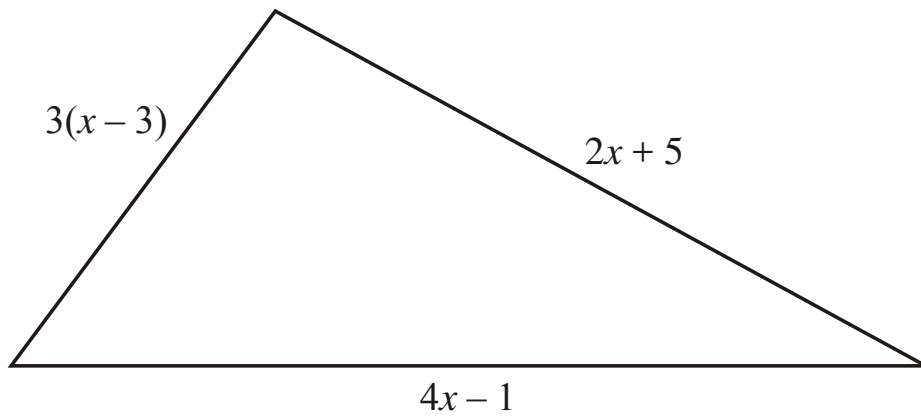
$x =$………………………

(2)

(4 marks)

2.

Diagram **NOT** accurately drawn

The lengths, in cm, of the sides of the triangle are $3(x-3)$, $4x-1$ and $2x+5$

(a)   Write down, in terms of x, an expression for the perimeter of the triangle.

.... cm

(2)

The perimeter of the triangle is 49 cm.

(b)   Work out the value of x.

$x = $ ....

(2)
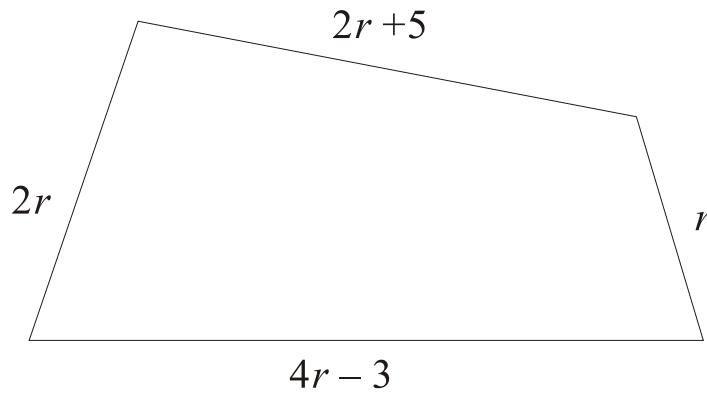
(4 marks)

3.

$2r + 5$

$2r$

r

$4r - 3$

Diagram **NOT** accurately drawn

In the diagram, all measurements are in centimetres.

The lengths of the sides of the quadrilateral are

$2r + 5$
$2r$
$4r - 3$
r

(a)   Find an expression, in terms of r, for the perimeter of the quadrilateral.
      Give your expression in its simplest form.

....

(2)

The perimeter of the quadrilateral is 65 cm.

(b)   Work out the value of r.

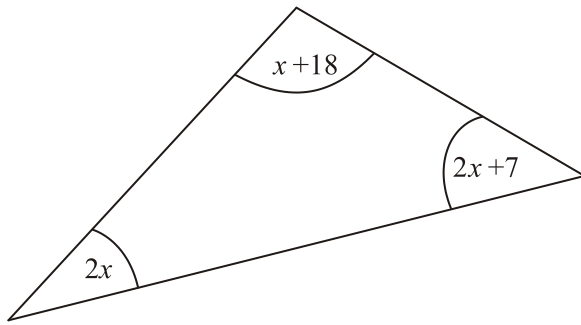$r = $ ....

(2)

(4 marks)

4.

Diagram **NOT**
accurately drawn

The sizes of the angles, in degrees, of the triangle are

$2x + 7$
$2x$
$x + 18$

(a) Use this information to write down an equation in terms of x.

....

(2)

(b) Use your answer to part (a) to work out the value of x.

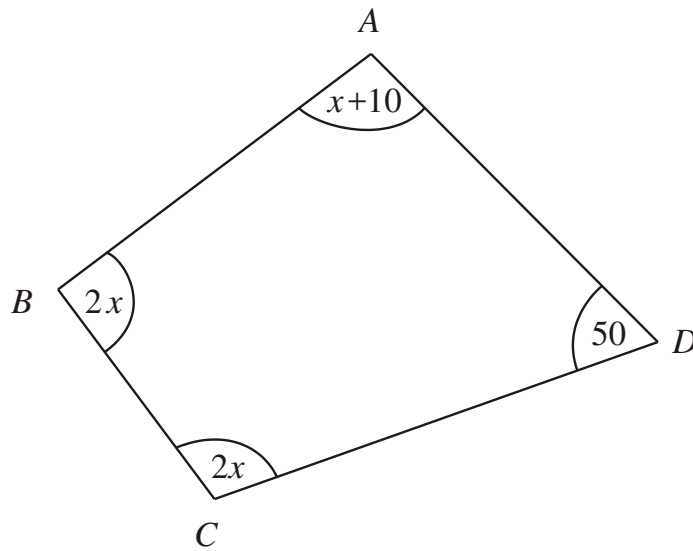$x =$ ....

(2)

(4 marks)

5.

Diagram **NOT** accurately drawn

In this quadrilateral, the sizes of the angles, in degrees, are

$x + 10$
$2x$
$2x$
50

(a)   Use this information to write down an equation in terms of x.

....

(2)

(b)   Work out the value of x.

$x = $ ....

(3)

(5 marks)

6.

$(x + 4)$ cm
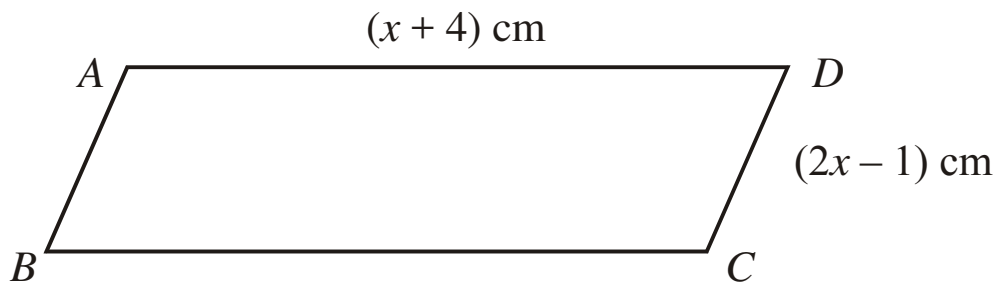
A

D

$(2x - 1)$ cm

B

C

Diagram **NOT** accurately drawn

ABCD is a parallelogram.
$AD = (x + 4)$ cm,
$CD = (2x - 1)$ cm.
The perimeter of the parallelogram is 24 cm.

(i)   Use this information to write down an equation, in terms of *x*.

………………………………………………………….

(ii)   Solve your equation.

x = ……………………………

(4 marks)

7. The perimeter of this triangle is 19 cm.
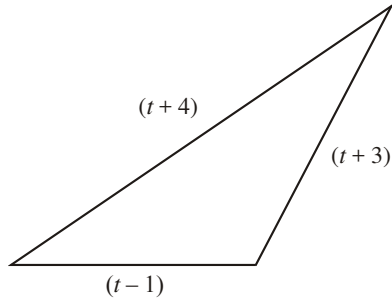All lengths on the diagram are in centimetres.

$(t + 4)$

$(t + 3)$

$(t – 1)$

Diagram **NOT** accurately drawn

Work out the value of t.

$t = $ ……………………………

(3 marks)

8.

$3x$

$2x$ $x + 30$
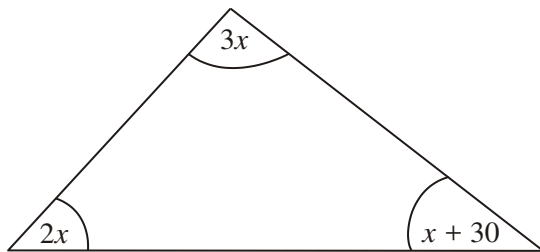
Diagram **NOT** accurately drawn

The diagram shows a triangle.
The sizes of the angles, in degrees, are

$3x$
$2x$
$x + 30$

Work out the value of x.

$x = $ ....

(3 marks)

9.

4x+ 1
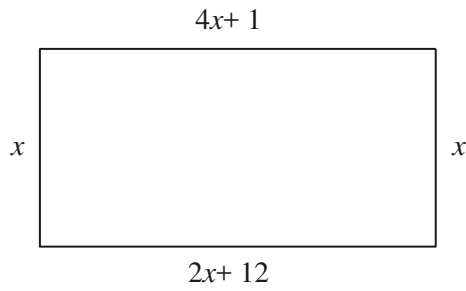
x   x

2x+ 12

Diagram **NOT** accurately drawn

The diagram shows a rectangle.
All the measurements are in centimetres.

(a)   Explain why $4x + 1 = 2x + 12$

....

....

(1)

(b)   Solve $4x + 1 = 2x + 12$

$x = $ ....

(2)

(c)   Use your answer to part (b) to work out the perimeter of the rectangle.

.... cm

(2)

(5 marks)