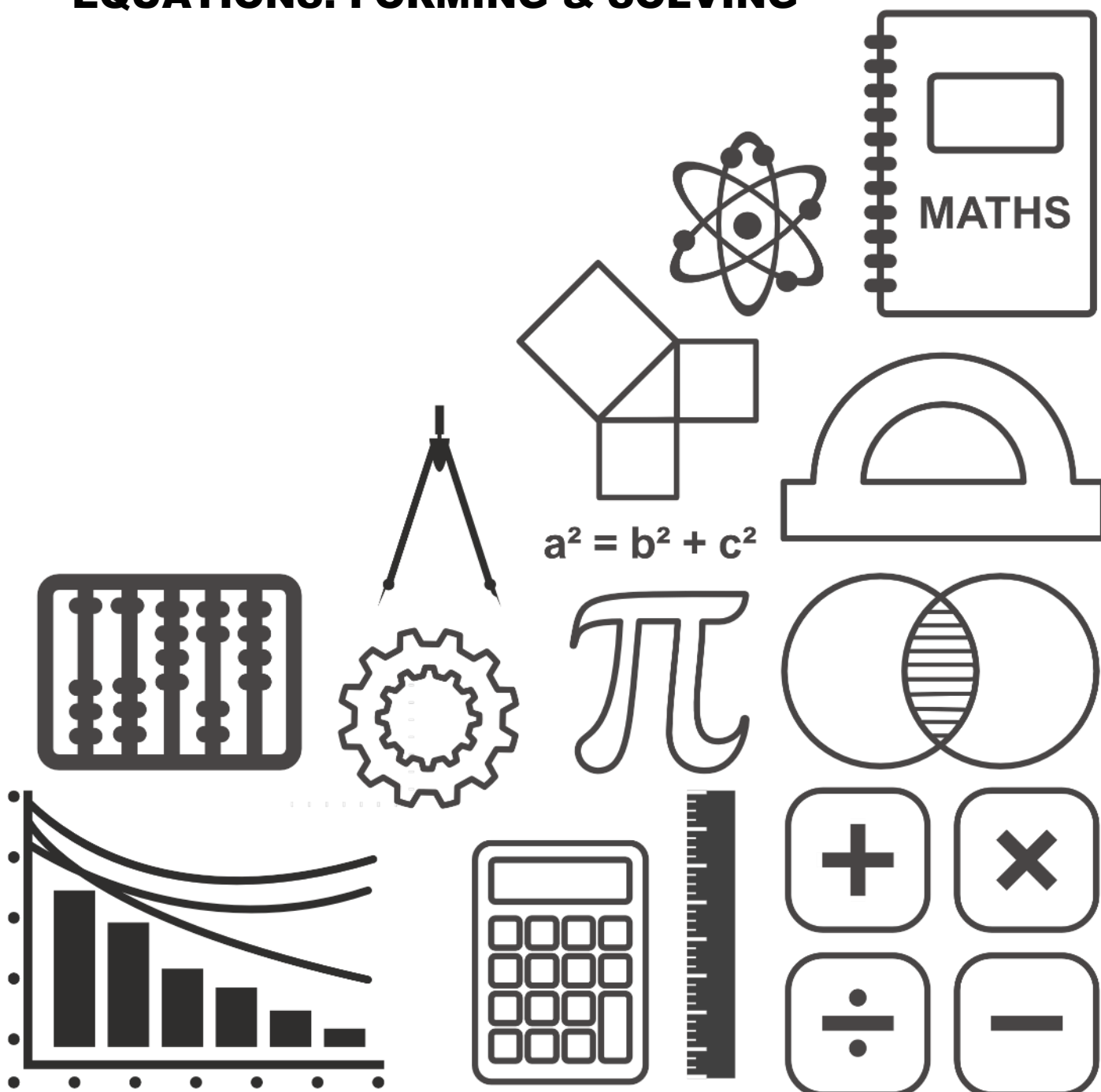


MATHS DIY

GCSE TOPIC BOOKLET

EQUATIONS: FORMING & SOLVING



1.

In this table, the letters a , b , c and d represent different numbers.
 The total for each row is given at the side of the table.
 Find the values of a , b , c and d .

a	a	a	a	12
b	b	a	a	18
c	b	b	a	22
d	c	b	a	21

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$a =$ $b =$ $c =$ $d =$

[4]

2. Look at the grid.
The total of each column is shown under the grid.

a	b	c	a
a	c	c	b
b	c	c	c
b	c	c	d
10	26	32	0

Find the values of a , b , c and d .

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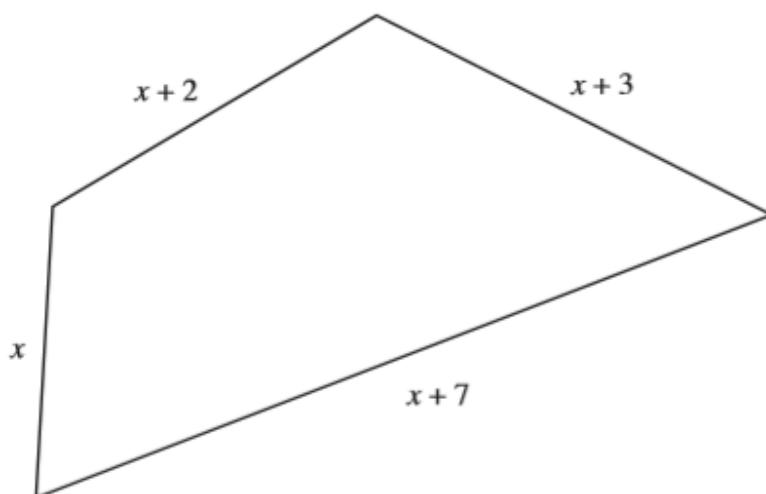
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$a =$ $b =$ $c =$ $d =$ [4]

3. The diagram shows a quadrilateral.
The lengths of the sides are all given in centimetres.



- (a) Write an expression for the perimeter of the quadrilateral in terms of x .

..... [1]

- (b) (i) The perimeter of the quadrilateral is 40 cm.
Write down an equation in terms of x .

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- (ii) Solve the equation.

.....

..... [2]

- (c) Write down the lengths of the four sides of the quadrilateral.

..... [1]

4.

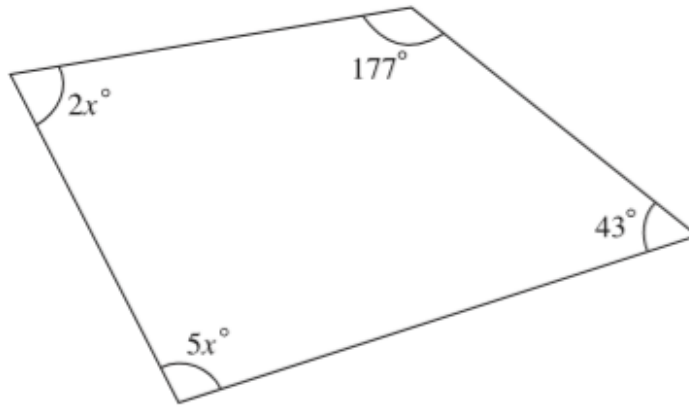


Diagram not drawn to scale.

The diagram shows a quadrilateral with interior angles of $2x^\circ$, $5x^\circ$, 43° and 177° . Write down an equation in terms of x . Solve your equation to find the value of x . Hence write down the size of the smallest angle in the quadrilateral.

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[5]

5. In the following table, the letters **a**, **b**, **c** and **d** represent different numbers. The total for each row is given at the side of the table. Find the values of **a**, **b**, **c** and **d**.

a	a	a	a	20
a	a	a	b	17
b	b	c	c	12
a	b	c	d	18

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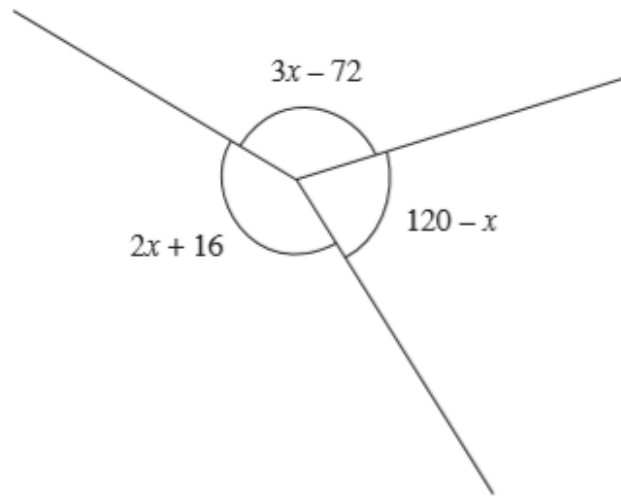
a = **b** = **c** = **d** = [4]

6. Complete the table.

$3x$	33
x	11
$2c - 3$	17
c	
$c - a$	3
a	
$a + b$	12
b	
$c + b$	

[4]

7. In the diagram below, three lines meet at a point. The sizes of the angles between the lines, measured in degrees, are as shown in the diagram.



- (a) Write down an equation that x satisfies.

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[2]

- (b) Solve the equation to find the value of x .

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[2]

8. In this table, the letters a , b and c represent different numbers. The total for each row is given at the side of the table. Find the values of a , b and c .

a	a	a	a	20
b	a	a	a	18
c	c	a	a	22

.....

.....

.....

$a =$ $b =$ $c =$

[3]

9.

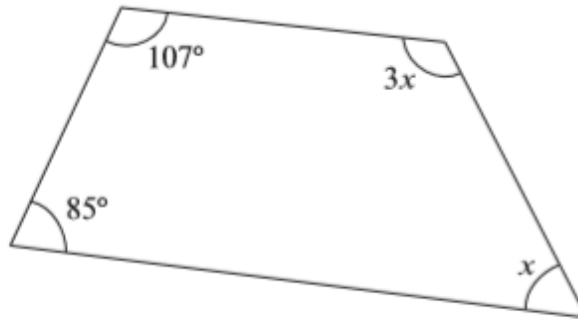


Diagram not drawn to scale

The interior angles of a quadrilateral are x° , 85° , 107° and $3x^\circ$.
Form an equation and solve it to find the value of x .

[4]