

# Forming and Solving Equations

For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name \_\_\_\_\_

Total marks: **33**

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Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

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- 1**    Asha thinks of a number,  $x$ .  
      She multiplies it by 4 and then subtracts 9  
      Her answer is 31

(a)    Write down an equation for  $x$ .

.....  
(1)

(b)    Solve your equation.

$x =$  .....  
(2)

**(Total for Question 1 is 3 marks)**

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- 2 The diagram shows an isosceles triangle.

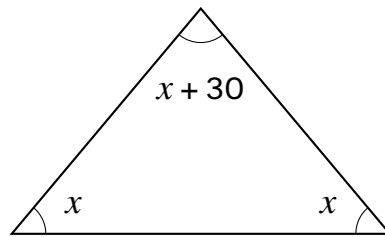


Diagram **NOT** accurately drawn

Work out the size of the largest angle.

..... °  
(3)

(Total for Question 2 is 3 marks)

- 3 The diagram shows three angles on a straight line.

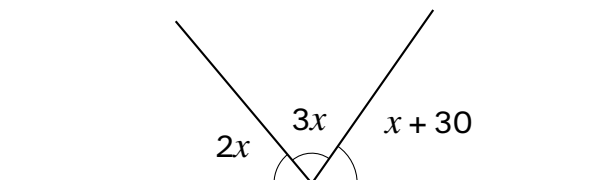


Diagram **NOT** accurately drawn

Work out the value of  $x$ .

$x =$  .....  
(3)

(Total for Question 3 is 3 marks)

- 4** On Monday a café sold only tea, coffee and hot chocolate.  
It sold  $x$  cups of tea,  $(3x - 10)$  cups of coffee and  $(2x + 30)$  cups of hot chocolate.  
It sold 200 drinks altogether.

(a) Work out the number of cups of coffee the café sold.

.....  
(3)

(b) What percentage of the drinks sold were hot chocolate?

..... %  
(2)

**(Total for Question 4 is 5 marks)**

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- 5 The diagram shows a rectangle.  
All measurements are in centimetres.  
The perimeter of the rectangle is 40 cm.

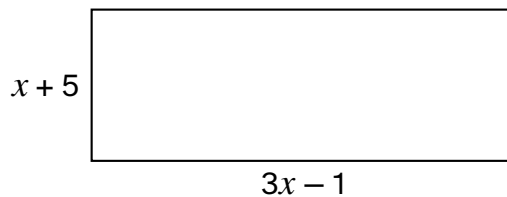


Diagram **NOT** accurately drawn

Work out the value of  $x$ .

$x = \dots\dots\dots$   
(3)

**(Total for Question 5 is 3 marks)**

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- 6 A garden centre sells small plant pots and large plant pots.  
A large pot costs £3.50 more than a small pot.  
Ella buys 4 small pots and 2 large pots.  
She pays £19 altogether.

Work out the cost of one large pot.

£  $\dots\dots\dots$   
(4)

**(Total for Question 6 is 4 marks)**

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- 7** Ali, Ben and Cat share £90  
Ali gets twice as much as Ben.  
Cat gets £10 more than Ben.  
Work out how much money Ali gets.

£ .....  
(3)

**(Total for Question 7 is 3 marks)**

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- 8** A square has sides of length  $(x + 1)$  cm.  
An equilateral triangle has sides of length  $(x + 5)$  cm.  
The perimeter of the square is equal to the perimeter of the triangle.  
Work out the value of  $x$ .

$x =$  .....  
(3)

**(Total for Question 8 is 3 marks)**

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- 9** Karen's mum is 3 times as old as Karen.  
In 12 years' time, Karen's mum will be twice as old as Karen.  
Work out Karen's age now.

..... years  
(3)

**(Total for Question 9 is 3 marks)**

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- 10** The sum of three consecutive even numbers is 84  
Work out the three numbers.

.....  
(3)

**(Total for Question 10 is 3 marks)**

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