



## GCSE Foundation 01

*Number*

---



193 minutes



187 marks

---

*Integers*

**Q1.** (a) Circle the **two** multiples of 7

6      10      16      21      25      27      32      35

(2)

(b) Circle the **two** factors of 30

6      10      16      21      25      27      32      35

(2)

(c) Circle the **two** square numbers.

6      10      16      21      25      27      32      35

(2)

(Total 6 marks)

**Q2.** Two numbers add up to 200.  
The difference between the numbers is 30.

Work out the numbers.

.....  
.....  
.....

Answer ..... and .....

(Total 2 marks)

**Q3.** (a) Write down **two** multiples of 5.

Answer..... and .....

(1)

(b) Write down **two** factors of 18.

Answer..... and .....

(1)

(c) Write down **two** square numbers that are greater than 10 but less than 50.

.....

Answer..... and .....

(2)

(Total 4 marks)

**Q4.** (a) Circle the number one thousand two hundred

120      1200      12 000      120 000      1 200 000

(1)

(b) Circle the number one hundred and twenty thousand

120      1200      12 000      120 000      1 200 000

(1)

(c) Circle the number which has the same value as one million.

$10^3$        $10^4$        $10^5$        $10^6$        $10^7$

(1)

(Total 3 marks)

**Q5.** I am thinking of three **different** two-digit numbers.  
The total of the numbers is 240.

What is the smallest possible value that one of the numbers could be?

.....

.....

.....

.....

.....

Answer .....

(Total 3 marks)

**Q6.**  $n$  is a whole number.

Joe says that  $n^2 - 1$  is never a multiple of 7.

Give an example to show that he is wrong.

.....

.....

.....

(Total 2 marks)

**Q7.** (a) Write the number 3840 in words.

Answer.....  
.....

(1)

(b) Write the number five thousand and twelve in figures.

Answer .....

(1)

(c) What is the value of the digit 4 in the number 8462?

Answer .....

(1)

(d) Write the number 2684 correct to the nearest 1000.

Answer .....

(1)

(e) Work out  $500 - 358$

.....  
.....  
.....

Answer .....

(2)

(Total 6 marks)

**Q8.** Here is a list of numbers.

7    10    16    23    27    47    60

From this list, write down

(a) the multiple of 8

Answer .....

(1)

(b) the factor of 30

Answer .....

(1)

(c) the number that is one-third of 69

Answer .....

(1)

(d) the cube number.

Answer .....

(1)  
(Total 4 marks)

**Q9.** (a) Circle **all** the prime numbers in this list.

3    6    7    9    10    13    15

(2)

(b)  $n$  is a positive whole number.  
 $6n - 1$  is **not** a prime number.

Work out a possible value for  $n$ .

.....  
.....  
.....  
.....

Answer .....

(2)  
(Total 4 marks)

**Q10.** Here are some numbers.

13    14    15    17    31    34    35    42    43    49

(a) Which **two** of the numbers add up to 29?

.....  
.....

Answer..... and .....

(1)

(b) Which number is 12 less than one of the other numbers?

.....  
.....

Answer .....

(1)

(c) Which number is half of one of the other numbers?

.....  
.....

Answer .....

(1)

(d) Which number is three times one of the other numbers?

.....  
.....

Answer .....

(1)

(e) Which number is a square number?

Answer .....

(1)

(Total 5 marks)

**Q11.** Hannah has a box of chocolates.  
She gives half of the chocolates to Alex.  
Alex eats five of them and has nine left.

How many chocolates are in the box at the start?

.....  
.....  
.....

Answer .....

(Total 2 marks)

**Q12.** Here are three numbers.

20                      21                      25

Complete these three statements.  
The first one is done for you.

20 is the odd one out because it is the only even number.

21 is the odd one out because .....

.....

25 is the odd one out because .....

.....

**(Total 2 marks)**

**Q13.** Three different whole numbers add up to 31.

The first number is a multiple of 3.  
The second number is a multiple of 4.  
The third number is a multiple of 5.

What could the numbers be?

.....

.....

.....

.....

.....

.....

Answer First number .....

Second number .....

Third number .....

**(Total 3 marks)**

**Q14.** An estate agent advertises four houses.

House A
£132 500

House B
£131 950

House C
£132 400

House D
£131 750

(a) Which house is the cheapest?

Answer .....

(1)

(b) Which house is the most expensive?

Answer .....

(1)

(c) What is the difference in price between the cheapest and the most expensive house?

.....  
.....  
.....

Answer £ .....

(2)

(d) Jack buys House C.  
He pays a 10% deposit.

How much is 10% of £132 400?

.....  
.....

Answer £ .....

(1)

(Total 5 marks)



**Q15.** The number 57 can be written as the product of two prime numbers.

$$57 = 3 \times 19$$

Find **three** other numbers between 50 and 60 that can be written in this way.  
You **must** show the products with each answer.

.....

.....

.....

.....

.....

.....

Answer .....

.....

.....

(Total 3 marks)

**Q16.** Here are four number cards.



(a) Write the number 5247 in words.

Answer.....

.....

(1)

(b) Write the number 5247 to the nearest hundred.

Answer .....

(1)

(c) What is the largest number you can make using all four cards?

.....

Four empty rounded rectangular boxes are arranged horizontally, intended for the student to write the digits of the largest number possible using the cards.

(1)

(d) What is the smallest **even** number you can make using all four cards?

.....

--	--	--	--

(2)  
(Total 5 marks)

**Q17.** Emma wants to buy

2 magazines at £1.70 each  
3 birthday cards at £2.25 each.

She only has a £10 note.

Is this enough?

You **must** show your working.

.....

.....

.....

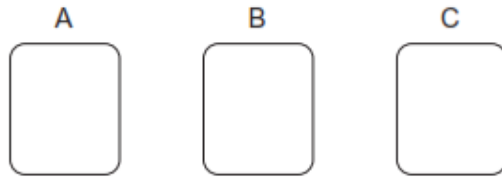
.....

.....

.....

(Total 4 marks)

**Q18.** Here are three cards.



Write a different whole number on each card so that

the numbers add up to 60

the number on card A is a multiple of 10

the number on card B is three times the number on card C.

.....

.....

.....

.....

.....

**(Total 3 marks)**

**Q19.**  $w$  is an even number.

For each statement, tick the correct box.

	Always true	Sometimes true	Never true
$4w - 3$ is even.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$4w - 3$ is prime.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$4w - 3$ is a multiple of 9.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

.....

.....

.....

.....

.....

.....

(Total 3 marks)

**Q20.** Here is a set of four number cards.



The cards show the number 5472.

(a) Write down the number 5472 in words.

Answer .....

.....

(1)

- (b) Write down the smallest number you can make using all four cards.

.....

Answer

--	--	--	--

(1)

- (c) Write down the largest **odd** number you can make using all four cards.

.....

Answer

--	--	--	--

(2)

- (d) Write the number 5472 to the nearest hundred.

Answer .....

(1)

(Total 5 marks)

- Q21.** (a) (i) Write down a multiple of 6 that is greater than 20.

Answer .....

(1)

-

- (ii) Write down a factor of 20 that is less than 6.

Answer .....

(1)

- (b) Use these mathematical terms to complete the statements below.

cube      cube root      square      square root

10 is the ..... of 100

144 is the ..... of 12

5 is the ..... of 125

(3)

(c) This is Ben's working for the calculation  $12 + 4 \times 10$

$$\begin{aligned} 12 + 4 &= 16 \\ 16 \times 10 &= 160 \\ \text{Answer} &= 160 \end{aligned}$$

Ben is wrong.

Work out the correct answer for the calculation.

.....  
.....

Answer .....

(1)  
(Total 6 marks)

**Q22.** Here are the monthly charges for Mark's mobile phone.

Monthly charge £15
100 free minutes then 12 p per minute
200 free texts then 10 p per text

During one month, Mark makes 150 minutes of calls and sends 285 texts.

Work out the total charge for the month.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

Answer £ .....

(Total 5 marks)

**Q23.** I am thinking of a number.  
Two-thirds of the number is 60.

What is  $1\frac{1}{2}$  times the number?

.....

.....

.....

Answer .....

**(Total 3 marks)**

**Q24.** You are given that  $P = x^2 - y^2$

(a) Show that  $P$  is a prime number when  $x = 4$  and  $y = 3$

.....

.....

**(2)**

(b) Work out **two** other pairs of values for  $x$  and  $y$  so that  $P$  is a prime number.

.....

.....

.....

.....

Answer  $x =$  ..... and  $y =$  .....

$x =$  ..... and  $y =$  .....

**(3)**

**(Total 5 marks)**

**Q25.** The table shows the size of population for five Derbyshire villages.

Village	Population
Ashover	1796
Bamford	1184
Clowne	7447
Darley Dale	5167
Eckington	16684

- (a) Write the population of Darley Dale in words.

Answer .....

.....

(1)

- (b) Write the population of Clowne correct to the nearest 100.

Answer .....

(1)

- (c) Write the population of Eckington to the nearest 1000.

Answer .....

(1)

- (d) How many more people live in Eckington than Bamford?

.....

.....

(2)

(Total 5 marks)

**Q26.** (a) From this list of numbers

65          5          25          70          75          34

- (i) Write down a multiple of 10.

Answer .....

(1)

- (ii) Write down a factor of 35.

Answer .....

(1)



(iii) Write down a square number.

Answer .....

(1)

(iv) Write down three-quarters as a percentage.

Answer ..... %

(1)

(b) Work out  $70 \div (65 - 5 - 25) \times 75$

.....  
.....

Answer .....

(2)

(Total 6 marks)

**Q27.** (a) Circle the **two** fractions in the list that have the same value as  $\frac{1}{4}$ .

$\frac{2}{8}$        $\frac{3}{10}$        $\frac{4}{12}$        $\frac{5}{25}$        $\frac{6}{24}$

(2)

(b) Write  $\frac{1}{4}$  as a percentage.

Answer ..... %

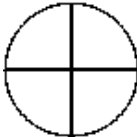
(1)

(c) Which of these words best describes an event with a probability of  $\frac{3}{4}$ ?

Circle the correct answer.

impossible      unlikely      likely      certain

(1)

(d) In a pictogram the symbol  represents 20 people.

Draw a symbol that would represent 5 people.

(1)

(Total 5 marks)

**Q28.** The table shows UK postal rates.

	Weight	First Class	Second Class
<b>Letter</b>	0 —100g	£0.34	£0.24
<b>Large Letter</b>	0 —100g	£0.48	£0.40
	101—250g	£0.70	£0.60
	251—500g	£0.98	£0.83
	501—750g	£1.42	£1.20
<b>Packet</b>	0 —100g	£1.09	£0.92
	101—250g	£1.38	£1.20
	251—500g	£1.84	£1.52
	501—750g	£2.38	£1.92
	751—1000g	£2.92	£2.30
	1001—1250g	£4.25	Please note items heavier than 1000 g cannot be sent Second Class
	Each additional 250 g or part thereof	+ £0.75	

- (a) What is the cost of sending a 225 g large letter using First Class?

Answer £ .....

(1)

- (b) What is the weight of the heaviest item that can be sent Second Class?

Answer £ .....

(1)

- (c) A packet weighs 1.3 kg.

How much does it cost to send it using First Class?

.....

.....

Answer ..... g

(3)

(Total 5 marks)

**Q29.** Complete the following table.

Put a tick (✓) next to the statements that are right.  
Put a cross (✗) next to the statements that are wrong.

Statement	✓ or ✗
8 is a factor of 56	
8 is a square number	
8 million = 80 000	
20 is a multiple of 8	
When you divide a whole number by 8 the greatest possible remainder is 7	

(Total 3 marks)

**Q30.** The table shows the amounts of total waste and recycled waste in the UK from 2001 to 2006.

Year	2001	2002	2003	2004	2005	2006
<b>Total waste</b> (kg per person)	507	516	521	512	517	511
<b>Recycled waste</b> (kg per person)	52	60	71	87	113	135

(a) In which year was the **total** waste per person the greatest?

Answer .....

(1)

(b) By how much did **recycled** waste per person increase between 2002 and 2003?

.....

Answer ..... kg per person

(1)

- (c) Between which two consecutive years was the increase in **recycled** waste per person the greatest?

.....  
.....

Answer ..... and .....

(2)  
(Total 4 marks)

- Q31.** (a) A plant costs £4.99

How many of these plants can be bought for £50?

.....  
.....  
.....

Answer .....

(2)

- (b) Jill writes  $£4.99 \times 20 = £998$

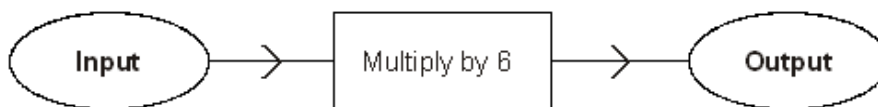
Is she correct?

Explain your answer.

.....  
.....

(2)  
(Total 4 marks)

- Q32.** (a) Here is a number machine.



The input is 7.

What is the output?

.....

Answer .....

(1)

- (b) Here is a different number machine.



The output is 17.

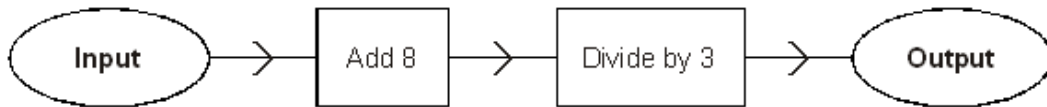
What is the input?

.....

Answer .....

(1)

- (c) Here is another number machine.



The input is 4.

What is the output?

.....

Answer .....

(2)

(Total 4 marks)

**Q33.** Here is a list of numbers.

3      4      6      8      9      12      18

- (a) Write down **four** different numbers from the list that add up to 30.

.....

.....

Answer ..... , ..... , ..... , .....

(1)

- (b) Write down **one** number in the list that is a multiple of 6.

Answer .....

(1)

- (c) Write down **all** the numbers in the list that are factors of 18.

.....

Answer .....

(2)

- (d) There are two square numbers in the list.

Work out the difference between them.

.....

Answer .....

(2)  
(Total 6 marks)

- Q34.** Find a multiple of 4 and a multiple of 5 that add to make a multiple of 6.

.....

.....

.....

Answer ..... + ..... = .....  
multiple of 4    multiple of 5    multiple of 6

(Total 2 marks)

- Q35.** Find a multiple of 4 and a multiple of 5 that add to make a multiple of 6.

.....

.....

.....

Answer ..... + ..... = .....  
multiple of 4    multiple of 5    multiple of 6

(Total 2 marks)

