



## GCSE Foundation/Higher 06

*Number*

---



Questions



70 minutes



62 marks

---

*Ratio*

**Q1.** Some boys and girls are asked if they can whistle.

There are 30 boys.

There are three times as many girls.

40% of the girls can whistle.

Boys that can whistle : girls that can whistle = 2 : 3

Complete the two-way table.

.....

.....

.....

.....

.....

.....

	Boys	Girls
Can whistle		
Cannot whistle		
Total	30	

(Total 5 marks)

**Q2.** Here are some of the ingredients for a pie.

Minced lamb	450 g
Potatoes	900 g
Carrots	75 g
Stock	300 ml

Oliver has only 300 g of minced lamb.

How much of the other ingredients should he use?

.....

.....

.....

.....

Answer Potatoes ..... g

Carrots ..... g

Stock ..... ml

**(Total 3 marks)**

**Q3.** Here is a list of ingredients.

<b>Serves 4 people</b>	
Bacon	50 g
Minced beef	450 g
Chopped tomatoes	400 g
Button mushrooms	100 g
Beef stock	125 ml

Marco is making a meal for 14 people using these ingredients.

Work out the number of grams of minced beef he needs.

.....

.....

.....

.....

.....

Answer ..... g

**(Total 3 marks)**

- Q4.** Concrete is made by mixing cement, sand and gravel in the ratio 1 : 2 : 4  
A builder mixes 455 kg of concrete.

How much gravel does he need?

.....

.....

.....

.....

Answer ..... kg

**(Total 3 marks)**

- Q5.** A newspaper headline states:

Only 80% of teenagers think  
Winston Churchill was a real person.

- (a) Show that the ratio of the number of teenagers who think Winston Churchill was a real person to those who do not is 4 : 1

.....

**(1)**

- (b) Hana claims:

GCSE History students are more likely than other teenagers  
to know that Winston Churchill was a real person

Design a data collection sheet for Hana to investigate her claim.

**(2)**

- (c) The ratio of GCSE History students who think Winston Churchill was a real person to those who do not is 17 : 3

Is Hana's claim true?  
Show how you decide.

.....  
.....

(2)  
(Total 5 marks)

**Q6.** Ali, Beth and Clare take a test.

The ratio of Ali's score to Beth's score is 5 : 3  
Ali scored 10 more marks than Beth.

Clare scored 7 more marks than Ali.

Work out each of their scores.

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

Answer Ali ..... marks

Beth ..... marks

Clare ..... marks

(Total 3 marks)

- Q7.** Peter and Alice buy a set of golf clubs for their mother.  
They pay in the ratio 4 : 3  
Peter pays £224.

How much does Alice pay?

.....

.....

.....

Answer £.....

**(Total 3 marks)**

- Q8.** Divide £600 in the ratio 9 : 6 : 5

.....

.....

.....

.....

Answer £ ..... : £..... : £.....

**(Total 3 marks)**

- Q9.** Andy and Trevor share 40 sweets in the ratio 11 : 9.

How many more sweets does Andy receive than Trevor?

.....

.....

.....

Answer .....

**(Total 2 marks)**

**Q10.** Paul and Kelly each buy a can of drink.



Volume        500 ml  
Sugar per can   35 g



Volume        330 ml  
Sugar per can   28 g

Paul drinks 100 ml of the Blackcurrant juice.

Kelly drinks 100 ml of the Fizzy orange.

Who drinks more sugar?

You **must** show your working.

.....

.....

.....

.....

.....

Answer .....

(Total 3 marks)

**Q11.** The following information is from a table on the side of a packet of biscuits.

NUTRITION INFORMATION		
AVERAGE VALUES	PER BISCUIT	PER 100 g
PROTEIN	0.7 g	5.5 g

Use this information to work out the weight of one biscuit.  
Give your answer to an appropriate degree of accuracy.

.....

.....

.....

.....

Answer ..... g

**(Total 3 marks)**

**Q12.** (a) In a primary school the ratio of boys to girls is 7 : 8

For each statement write down whether it is

- D Definitely true
- C Could be true
- F False

.....

.....

(i) The number of boys in the school is 49 .....

(ii) The fraction of boys in the school is  $\frac{7}{8}$  .....

(iii) The fraction of girls in the school is  $\frac{8}{15}$  .....

**(3)**



- (b) In a secondary school the ratio of boys to girls is 10 : 11  
There are 830 boys in the school.  
How many girls are there in the school?

.....

.....

.....

.....

Answer .....

(2)  
(Total 5 marks)

- Q13.** A supermarket sells jars of coffee of the same brand in two different sizes.

Regular

Large



Which jar gives the better value for money?  
You **must** show your working.

.....

.....

.....

.....

.....

.....

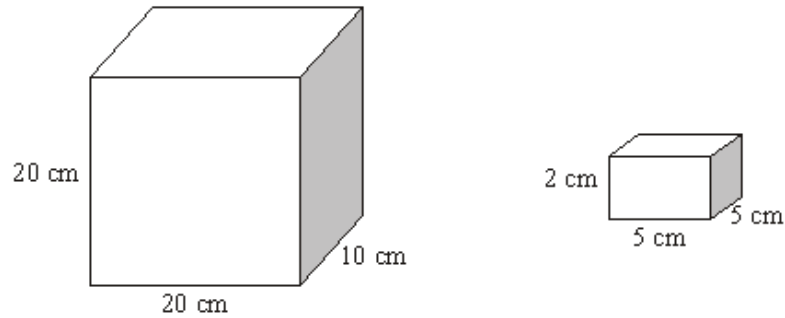
.....

Answer .....

(Total 3 marks)

- Q14.** The diagram shows two boxes that are cuboids.  
The larger box measures 20 cm by 10 cm by 20 cm.  
It is partly filled with 70 smaller boxes each measuring 5 cm by 5 cm by 2 cm.  
The smaller boxes are packed so that there are no gaps between them.

Not drawn accurately



How many more smaller boxes could be fitted in the larger box?

.....

.....

.....

.....

Answer .....

(Total 4 marks)

- Q15.** The labels on two types of cereal bar show the following information.

	Fat per 100g	Bar weight	Fat per bar
<b>Fruity bar</b>	17.4 g	62.6 g	
<b>Sports bar</b>	10.3 g		3.4 g

Complete the table.  
 You **must** show your working.

.....

.....

.....

.....

.....

.....

(Total 4 marks)

**Q16.** Alex and Ben share £520 in the ratio 1:3

(a) How much does Ben receive?

.....

.....

.....

Answer £ .....

(2)

(b) What percentage of the £520 does Ben receive?

.....

.....

.....

Answer ..... %

(2)

(Total 4 marks)

**Q17.** The sizes of the interior angles of a quadrilateral are in the ratio

3 : 4 : 6 : 7

Calculate the size of the largest angle.

.....

.....

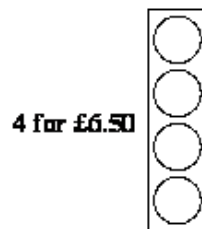
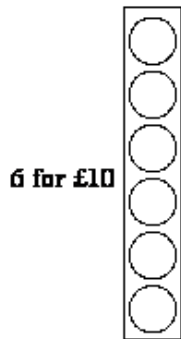
.....

.....

Answer .....

(Total 3 marks)

**Q18.** A shop sells tennis balls in two different sized packs.



Which pack is better value?  
You **must** show your working.

.....

.....

.....

.....

Answer .....

(Total 3 marks)

