Name: _____

GCSE (1 – 9)

Sharing Ratio

Instructions

- Use **black** ink or ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

Information

- The marks for each question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end

1 Will and Olly share £80 in the ratio 3 : 2

Work out how much each of them get.

16 16 16 : 16 16

80 ÷ 5 = 16

3 × 16 = 48

2 × 16 = 32

Will £ 48

Olly £ 32

(Total for question 1 is 3 marks)

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2 Molly, Paige and Demi share 42 sweets in the ratio 3 : 2 : 1

Work out the number of sweets that each of them receives.

7 7 7 : 7 7 : 7

42 ÷ 6 = 7

3 × 7 = 21

2 × 7 = 14

1 × 7 = 7

Molly 21 sweets

Paige 14 sweets

Demi 7 sweets

(Total for question 2 is 3 marks)

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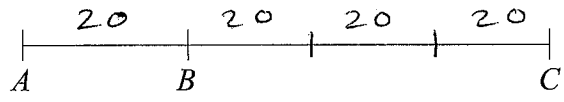
3 *ABC* is a straight line.



The length of *BC* is three times the length of *AB*.

AC = 80 metres.
Work out the length *BC*.

3 : 1

BC : AB

$\frac{80}{4} = 20$

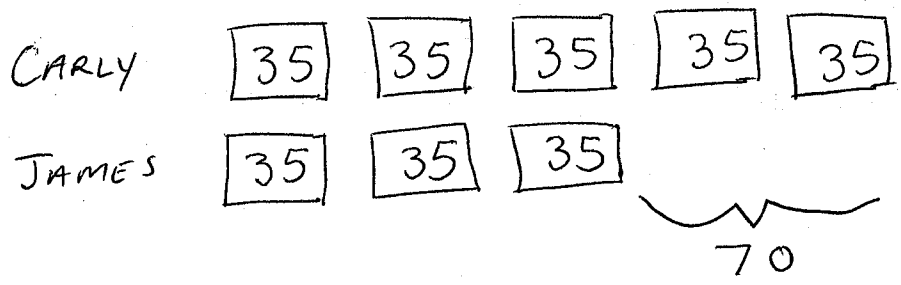
3 × 20 = 60

60 metres

(Total for question 3 is 3 marks)

4 Carly and James share some money in the ratio 5 : 3
Carly gets £70 more than James.

Work out how much money James gets.



$\frac{70}{2} = 35$ 3×35

£ 105

(Total for question 4 is 3 marks)

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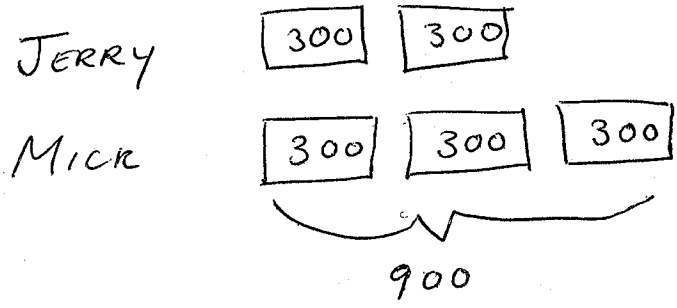
5 Jerry and Mick share some money in the ratio 2 : 3
Mick gets £900

Work out how much money Jerry gets.



$\frac{900}{3} = 300$ 2×300

£ 600

(Total for question 5 is 3 marks)

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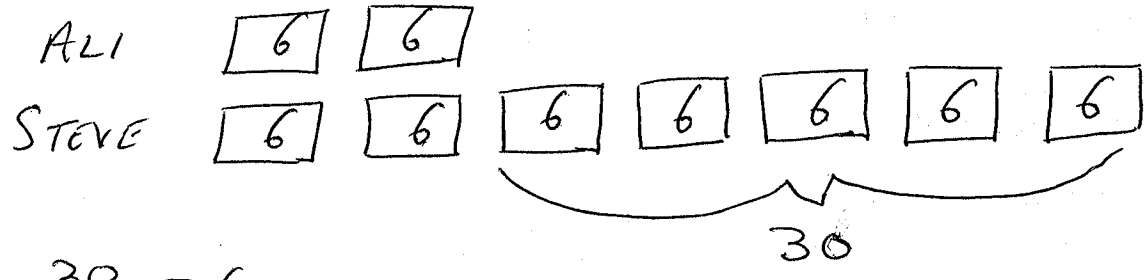
6 Ali and Steve share some sweets in the ratio 2 : 7
Ali gets 30 more sweets than Steve.

Work out how many sweets Steve gets.



$\frac{30}{5} = 6$

$6 \times 7 = 42$

42

(Total for question 6 is 3 marks)

7 Dave is making cookies.
He mixes flour, butter and sugar in the ratio 6 : 4 : 1

Dave uses 160 grams of butter.
Work out how much flour and sugar Dave uses.

40 40 40 40 40 40 : 40 40 40 40 : 40

160

$\frac{160}{4} = 40$

6×40 flour 240 grams

1×40 sugar 40 grams

(Total for question 7 is 3 marks)

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8 Alvin and Simon shared £540 in the ratio 4 : 5

60 60 60 60 : 60 60 60 60 60

Alvin gave half of his share to Theo.
Simon gave a tenth of his share to Theo.

What fraction of the £540 did Theo receive?

$\frac{540}{9} = 60$

ALVIN $4 \times 60 = 240$

SIMON $5 \times 60 = 300$

THEO gets $\frac{1}{2}$ of $240 = 120$

$\frac{1}{10}$ of $300 = 30$

$120 + 30 = 150$

$\frac{150}{540} = \frac{15}{54} = \frac{5}{18}$

$\frac{5}{18}$

(Total for question 8 is 3 marks)

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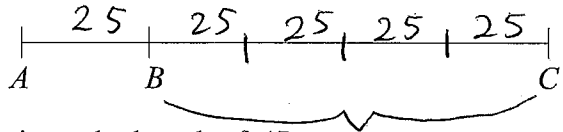
9 *ABC* is a straight line.



The length of *BC* is four times the length of *AB*. 100

BC = 100 metres.
Work out the length *AC*.

$\frac{100}{4} = 25$

5×25

125 metres

(Total for question 9 is 3 marks)

10 Bob is going to make some orange paint.
He needs to mix red paint, yellow paint and white paint in the ratio 5 : 4 : 1

Bob wants to make 750 m*l* of orange paint.

Bob has

400 m*l* of red paint $400 > 375$
300 m*l* of yellow paint $300 = 300$
200 m*l* of white paint $200 > 75$

Does Bob have enough red paint, yellow paint and white paint to make the orange paint?
You must show all your working.

RED [75] [75] [75] [75] [75]
YELLOW [75] [75] [75] [75]
WHITE [75]

$5 \times 75 = 375$ ✓
$4 \times 75 = 300$ ✓
$1 \times 75 = 75$ ✓

$\frac{750}{10} = 75$ Yes Bob has enough paint

(Total for question 10 is 4 marks)

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11 Megan is going to make a drink using the instructions below.

Mix 2 parts of fruit juice with 5 parts of sparkling water

Megan has 180 m*l* of fruit juice and 400 m*l* of sparkling water.

What is the greatest amount of the drink Megan can make?

with 180ml of fruit juice

[90] [90] : [90] [90] [90] [90] [90]

180

$5 \times 90 = 450ml$ (NOT ENOUGH)

$\frac{180}{2} = 90$

with 400 ml of sparkling water $\frac{400}{5} = 80$

[80] [80] : [80] [80] [80] [80] [80]

160 400

560 ml

(Total for question 11 is 3 marks)

12 In a bag there are only red counters, blue counters and white counters.
A counter is taken at random from the bag.

The table shows the probability of getting a red counter.

Colour	Red	Blue	White
Probability	0.35	0.26	0.39

the number of blue counters : the number of white counters = 2 : 3

Complete the table.

$1 - 0.35 = 0.65$

[0.13] [0.13] : [0.13] [0.13] [0.13]

$\frac{0.65}{5} = 0.13$

$2 \times 0.13 = 0.26$
$3 \times 0.13 = 0.39$

(Total for question 12 is 4 marks)

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13 Al, Tom and Joe share €3000.

The ratio of the amount Al gets to the amount Tom gets is in the ratio 5 : 4
Joe gets 1.5 times the amount Tom gets.

Work out the amount of money that Tom gets.

$1.5 \times 4 = 6$
Joe gets 6 parts

5 : 4 : 6

[200] [200] [200] [200] [200] : [200] [200] [200] [200] : [200] [200] [200] [200] [200] [200]

$\frac{3000}{15} = \frac{600}{30} = 20$

4×200

€ 800

(Total for question 13 is 4 marks)

14 Harry and Gary have a total of 300 stickers.
The ratio of the number of stickers Harry has to the ratio of the number of stickers Gary has is in the ratio 7 : 3

Harry gives Gary some stickers.
The ratio of the number of stickers Harry has to the ratio of the number of stickers Gary has is now in the ratio 8 : 7

Work out how many stickers Harry gives to Gary.
You must show all your working.

30 30 30 30 30 30 30 : 30 30 30

$\frac{300}{10} = 30$

$7 \times 30 = 210$ $\qquad 3 \times 30 = 90$

20 20 20 20 20 20 20 20 : 20 20 20 20 20 20 20

$\frac{300}{15} = 20$

$8 \times 20 = 160$ $\qquad 7 \times 20 = 140$

$210 - 160 = 50$

50

(Total for question 14 is 4 marks)

15 A shop sells small chocolate bars and large chocolate bars.

There are
small chocolate bars are sold in packs of 4
large chocolate bars are sold in packs of 9

On one day

the number of packs of small chocolate bars sold : the number of packs of large chocolate bars sold = 5 : 2

190

A total of ~~95~~ chocolate bars were sold.

Work out the number of small chocolate bars sold.

Chocolate bars sold

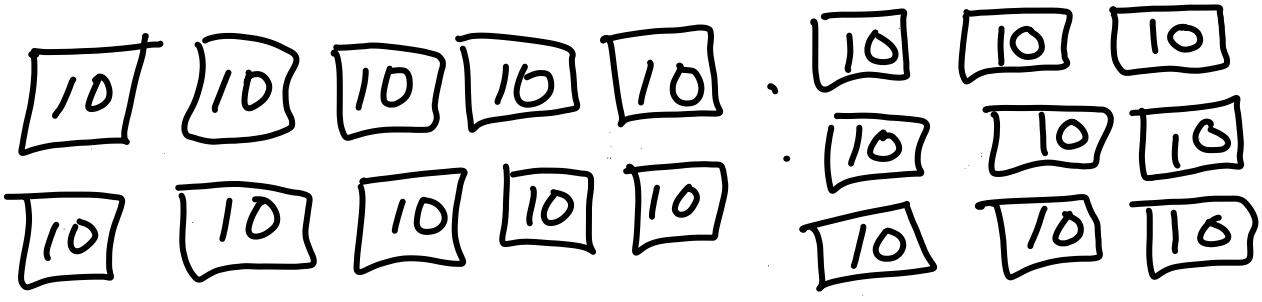
S : L

5 × 4 : 2 × 9

20 : 18

10 : 9

$\frac{190}{19} = 10$ each part = 10 chocolate bars



100 : 90

100 small

90 large

100

(Total for question 15 is 4 marks)