

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.

$$\boxed{16} \quad \boxed{16} \quad \boxed{16} : \boxed{16} \quad \boxed{16}$$

$$80 \div 5 = 16$$

$$3 \times 16 = 48$$

$$2 \times 16 = 32$$

Will £ 48

Olly £ 32

(Total for question 1 is 3 marks)

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.

$$\boxed{7} \quad \boxed{7} \quad \boxed{7} : \boxed{7} \quad \boxed{7} : \boxed{7}$$

$$42 \div 6 = 7$$

$$3 \times 7 = 21$$

$$2 \times 7 = 14$$

$$1 \times 7 = 7$$

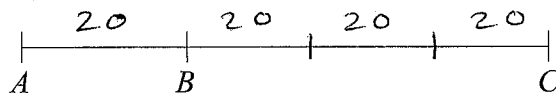
Molly 21 sweets

Paige 14 sweets

Demi 7 sweets

(Total for question 2 is 3 marks)

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 .

$$3 : 1$$

$$BC = AB$$

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

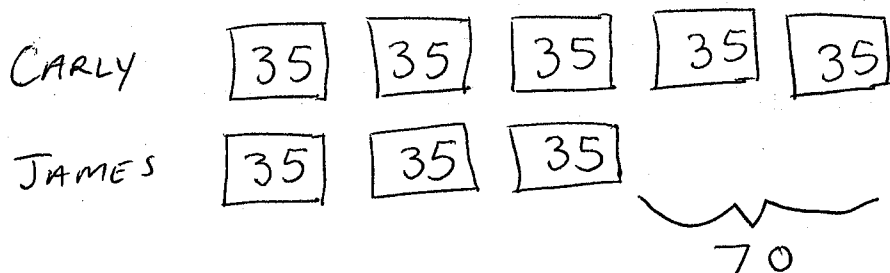
$$3 \times 20 = 60$$

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.



$$\frac{70}{2} = 35$$

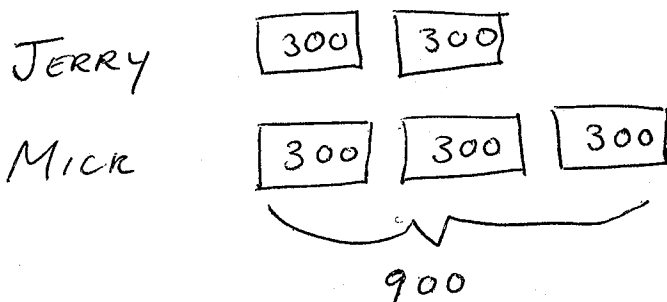
$$3 \times 35$$

£ 105

(Total for question 4 is 3 marks)

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

Work out how much money Jerry gets.



$$\frac{900}{3} = 300$$

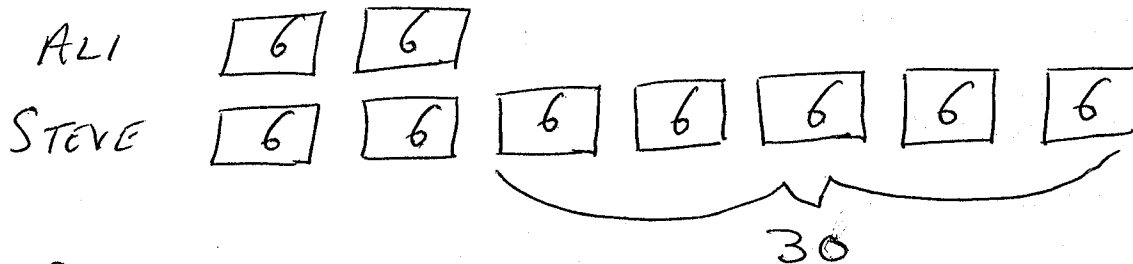
$$2 \times 300$$

£ 600

(Total for question 5 is 3 marks)

- 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.



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

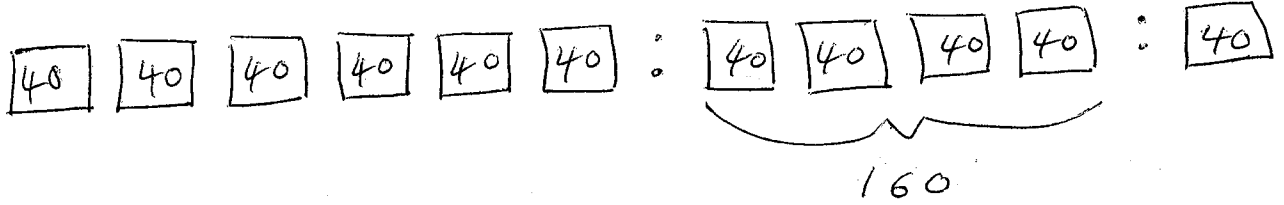
$$6 \times 7 = 42$$

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.



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

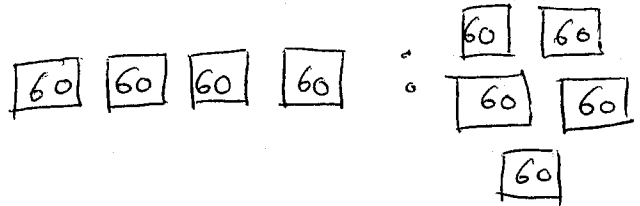
6 × 40 flour 240 grams
1 × 40 sugar 40 grams

(Total for question 7 is 3 marks)

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

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 × 60 = 240
SIMON 5 × 60 = 300

THEO gets $\frac{1}{2}$ of 240 = 120
 $\frac{1}{10}$ of 300 = 30

$$120 + 30 = \underline{150}$$

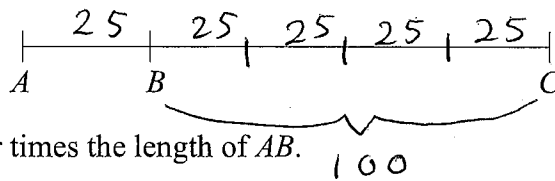
$$\frac{150}{540} = \frac{15}{54}$$

$$= \frac{5}{18}$$

$$\frac{5}{18}$$

(Total for question 8 is 3 marks)

9 ABC is a straight line.



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

BC = 100 metres.

Work out the length AC.

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

$$5 \times 25$$

..... 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 ml of orange paint.

Bob has

400 ml of red paint $400 > 375$
300 ml of yellow paint $300 = 300$
200 ml 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 $\boxed{75} \boxed{75} \boxed{75} \boxed{75} \boxed{75}$
YELLOW $\boxed{75} \boxed{75} \boxed{75} \boxed{75}$
WHITE $\boxed{75}$

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

$$\frac{750}{10} = 75$$

Yes Bob has enough paint

(Total for question 10 is 4 marks)

- 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 ml of fruit juice and 400 ml of sparkling water.

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

with 180 ml of fruit juice

$\boxed{90} \boxed{90} : \boxed{90} \boxed{90} \boxed{90} \boxed{90} \boxed{90}$
 $5 \times 90 = 450 \text{ ml}$

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

(NOT ENOUGH)

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

$\boxed{80} \boxed{80} : \boxed{80} \boxed{80} \boxed{80} \boxed{80} \boxed{80}$
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.

$$1 - 0.35 = 0.65$$

$$\boxed{0.13} \boxed{0.13} : \boxed{0.13} \boxed{0.13} \boxed{0.13}$$

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

$$2 \times 0.13 = 0.26$$

$$3 \times 0.13 = 0.39$$

(Total for question 12 is 4 marks)

- 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

$$5 : 4 : 6$$

$$\boxed{200} \boxed{200} \boxed{200} \boxed{200} \boxed{200} : \boxed{200} \boxed{200} \boxed{200} \boxed{200} : \boxed{200} \boxed{200} \boxed{200} \boxed{200} \boxed{200} \boxed{200}$$

$$\frac{3000}{15} = \frac{6000}{30} = 200$$

$$4 \times 200$$

€ 800

(Total for question 13 is 4 marks)

14 Harry and Gary have a total of 300 stickers.

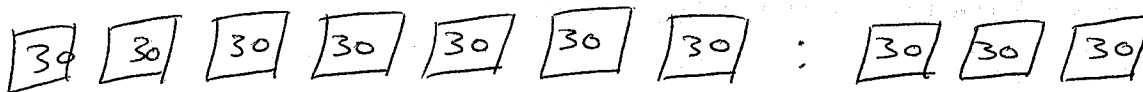
The ratio of the number of stickers Harry has to the ratio of the number of stickers Gary has is in the ratio 7 : 3

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.

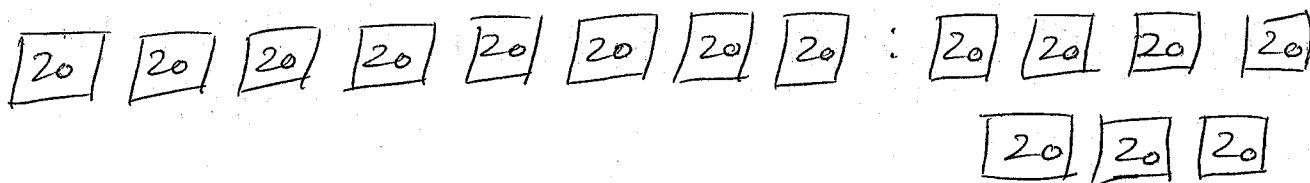
You must show all your working.



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

$$7 \times 30 = 210$$

$$3 \times 30 = 90$$



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

$$8 \times 20 = 160$$

$$7 \times 20 = 140$$

$$210 - 160 = \underline{\underline{50}}$$

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

A total of 95 chocolate bars were sold.

Work out the number of small chocolate bars sold.

Chocolate bars sold
S : L
 $5 \times 4 : 2 \times 9$
 $20 : 18$
 $10 : 9$

$\boxed{5} \boxed{5} \boxed{5} \boxed{5} \boxed{5} \boxed{5} \boxed{5} \boxed{5} \boxed{5} \boxed{5} : \boxed{5} \boxed{5} \boxed{5} \boxed{5} \boxed{5} \boxed{5} \boxed{5}$
 $\boxed{5} \boxed{5}$

19 parts

$$\frac{95}{19} = 5$$

$$10 \times 5 = \underline{\underline{50}}$$

50

(Total for question 15 is 4 marks)