1. A piece of wood is of length 45 cm.
The length is divided in the ratio 7 : 2

Work out the length of each part.

$$7 + 2 = 9 \quad (9 \text{ parts})$$

$$\frac{45}{9} = 5 \quad (5\text{cm per part})$$

$$7 \times 5 \; : \; 2 \times 5$$

.... 35 .... cm, ... 10 .... cm

(3 marks)

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2. Alex and Ben were given a total of £240
They shared the money in the ratio 5 : 7

Work out how much money Ben received.

$$5 + 7 = 12$$

$$\frac{240}{12} = 20$$
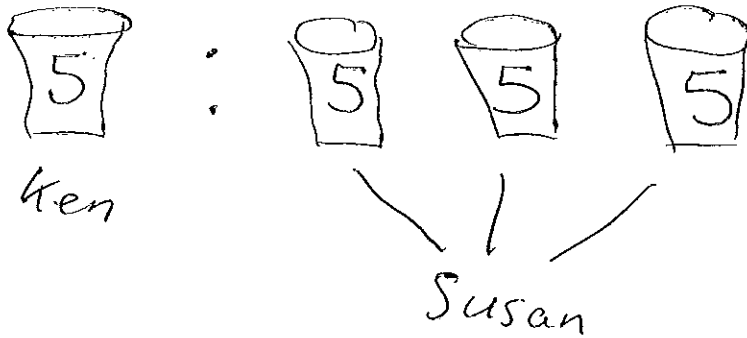
$$5 \times 20 \; : \; 7 \times 20$$

£ .... 140 ....

(3 marks)

3. Ken and Susan share £20 in the ratio 1 : 3

Work out how much money each person gets.

$1 + 3 = 4$

$\frac{20}{4} = 5$

Ken £ ....5..........

Susan £ ......15......

(3 marks)

4. Melissa is 13 years old.
Becky is 12 years old.
Daniel is 10 years old.

Melissa, Becky and Daniel share £28 in the ratio of their ages.
Becky gives a third of her share to her mother.

How much should Becky now have?

$13 + 12 + 10 = 35$

$\frac{£28}{35} = 80p.$

$12 \times 0.80 = £9.60$

$\frac{2}{3} \times £9.60 = £6.40$

£ ....6.40...............

(Total 4 marks)

5. Amy, Beth and Colin share 36 sweets in the ratio 2 : 3 : 4

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

$$2 + 3 + 4 = 9$$

$$\frac{36}{9} = 4$$

$$2 \times 4 = 8$$
$$3 \times 4 = 12$$
$$4 \times 4 = 16$$

Amy.........8....sweets

Beth.....12.....sweets

Colin.....16......sweets

(3 marks)

6. A shop sells CDs and DVDs.
    In one week the number of CDs sold and the number of DVDs sold were in the ratio 3:5
    The total number of CDs and DVDs sold in the week was 728

    Work out the number of CDs sold.

$$3 + 5 = 8$$

$$\frac{728}{8} = 91$$

$$3 \times 91$$

.....273............

(3 marks)

7. The ratio of girls to boys in a school is 2 : 3

   (a) What fraction of these students are boys?

$\frac{3}{5}$

.... (2)

   In Year 8 the ratio of girls to boys is 1 : 3

   There are 300 students in Year 8.

$1 + 3 = 4$

   (b) Work out the number of girls in Year 8.

$\frac{300}{4} = 75$

......75...... (3)

(5 marks)

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8. Ann and Bob shared £240 in the ratio 3 : 5

   Ann gave a **half** of her share to Colin.

   Bob gave a **tenth** of his share to Colin.

   What fraction of the £240 did Colin receive?

$3 + 5 = 8$

$\frac{240}{8} = £30$

Ann : Bob
£90 : £150

Colin gets £45 + £15 = £60

$\frac{60}{240} = \frac{1}{4}$

.........1/4......... (5 marks)

9. Peter won £75 as a prize.
    He gave 4/5 of the prize money as a present to Roger and Bethan.
    Roger and Bethan shared the present in the ratio 2:3
    Work out how much they each got.

$$\frac{4}{5} \times 75 = £60$$

$$2+3 = 5 \qquad \frac{60}{5} = £12.$$

$$2 \times 12 : 3 \times 12$$
$$24 : 36$$

Roger : £24
Bethan : £36
....

(4 marks)

___

10. Rosa prepares the ingredients for pizzas.

    She uses cheese, topping and dough in the ratio 2 : 3 : 5
    Rose uses 70 grams of dough.

    Work out the number of grams of cheese and the number of grams of topping Rosa uses.

$$\frac{70}{5} = 14.$$

Cheese ......28...... g

Topping ......42...... g

(Total 3 marks)

11. 5 schools sent some students to a conference.

One of the schools sent both boys and girls.
This school sent 16 boys.
The ratio of the number of boys it sent to the number of girls it sent was 1 : 2

$\overline{16} : 32$.

The other 4 schools sent only girls.
Each of the 5 schools sent the same number of students.

48 students

Work out the total number of students sent to the conference by these 5 schools.

$5 \times 48 = 240$

.... 240 ....

(4 marks)

12. Pat and Julie share some money in the ratio 2 : 5
Julie gets £45 more than Pat.

How much money did Pat get?

3 parts = £45
1 part = £15

Pat :   2 × 15

£............ 30 ....

(4 marks)

13. Last year Kerry's take home pay was £15 000
She spent 40% of her take home pay on rent.

She used the rest of her take home pay for living expenses, clothes and entertainment in the ratio 3 : 1 : 2

$3 + 1 + 2 = 6$

How much did Kerry spend on entertainment last year?

$10\% = 1500$
$40\% = 6000$

9000 left.

1500×2

$\dfrac{9000}{6} = £1500$

£............. 3000 ....

(4 marks)

*14. Talil is going to make some concrete mix.
He needs to mix cement, sand and gravel in the ratio 1 : 3 : 5 by weight.

Talil wants to make 180 kg of concrete mix.

$1 + 3 + 5 = 9$

Talil has

$\dfrac{180}{9} = 20$

15 kg of cement
85 kg of sand
100 kg of gravel

20 kg
60 kg ← he needs
100 kg

Does Talil have enough cement, sand and gravel to make the concrete mix?

Talil does not have enough cement.

(4 marks)

15. Jim has only 5p coins and 10p coins.

The ratio of the number of 5p coins to the number of 10p coins is 2 : 3

Work out the ratio of

5p 10p.

the total value of the 5p coins : the total value of the 10p coins.

Give your answer in its simplest form.

$10 : 30$

$1 : 3$

(4 marks)