## Questions

Q1. Colin, Dave and Emma share some money.
Colin gets $3 / 10$ of the money.
Emma and Dave share the rest of the money in the ratio $3: 2$
What is Dave's share of the money?

Q2.
Each day a company posts some small letters and some large letters.
The company posts all the letters by first class post.
The tables show information about the cost of sending a small letter by first class post and the cost of sending a large letter by first class post.

Small Letter

| Weight | First Class Post |
| :---: | :---: |
| $0-100 \mathrm{~g}$ | 60 p |

Large Letter

| Weight | First Class Post |
| :---: | :---: |
| $0-100 \mathrm{~g}$ | $£ 1.00$ |
| $101-250 \mathrm{~g}$ | $£ 1.50$ |
| $251-500 \mathrm{~g}$ | $£ 1.70$ |
| $501-750 \mathrm{~g}$ | $£ 2.50$ |

One day the company wants to post 200 letters.
The ratio of the number of small letters to the number of large letters is 3:2
$70 \%$ of the large letters weigh 0-100 g.
The rest of the large letters weigh 101-250 g.
Work out the total cost of posting the 200 letters by first class post.
£ $\qquad$

Q3.

* Seeta is organising a concert to raise money for a school and for a hospital.

A total of 1
$\overline{20}$ of the money received from selling tickets will be spent on hiring a hall.
The rest of the money received from selling tickets will be given to the school and to the hospital in the ratio $2: 3$

Seeta expects to sell 1000 tickets at $£ 23.50$ each.
Work out the amount of money that Seeta expects to give to the school and to the hospital. You must show all your working.

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
The other 4 schools sent only girls.
Each of the 5 schools sent the same number of students.
Work out the total number of students sent to the conference by these 5 schools.
(Total for Question is 4 marks)

Q5.
A supermarket car park has 200 spaces.
$10 \%$ of the spaces are for staff.
The other spaces are for disabled people, for parents and for other customers in the ratio $1: 2: 7$
Paul is going to paint a sign for each of the spaces for staff, for disabled people and for parents.

He is not going to paint signs for the spaces for other customers.
Work out the total number of spaces Paul is going to paint a sign for.

Q6.

* 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.
Talil has

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

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

Q7.
Mrs Jennings shares $£ 770$ between her two sons, Pete and Tim.

She shares the money in the ratio of her sons' ages.
The combined age of her two sons is 66 years.
Pete is 6 years younger than Tim.
Work out how much money each son gets.
You must show all your working.

Pete $£$
Tim
£

Q8.
*140 children will be at a school sports day.
Lily is going to give a cup of orange drink to each of the 140 children.
She is going to put 200 millilitres of orange drink in each cup.
The orange drink is made from orange squash and water.
The orange squash and water are mixed in the ratio $1: 9$ by volume.
Orange squash is sold in bottles containing 750 millilitres.
Work out how many bottles of orange squash Lily needs to buy.
You must show all your working.

Q9.
Gary's motorbike uses petrol.
Gary needs to mix oil with the petrol.
He mixes oil and petrol in the ratio 1: 14 by volume.
Gary is going to ride his motorbike 3000 miles.
Each 20 miles he rides uses 1 litre of the oil and petrol mixture.
A 500 ml bottle of oil costs $£ 3.99$
Work out the total cost of the bottles of oil Gary needs to buy.
(1 litre $=1000 \mathrm{~m} /$ )
You must show all your working.

## £

$\qquad$

Q10.
Babajan makes breakfast cereal.
She mixes nuts, raisins and oats in the ratio $3: 2: 5$ by weight.
On Monday, Babajan uses 60 grams of nuts.
(a) Work out the weight of raisins and the weight of oats she uses to make the breakfast cereal.

$$
\begin{aligned}
& \text { raisins ......................................................... grams } \\
& \text { oats ............................................................ grams }
\end{aligned}
$$

On Tuesday, Babajan makes 300 grams of the breakfast cereal.
500 grams of nuts cost $£ 8$
(b) Work out the cost of the nuts used to make 300 grams of the breakfast cereal.
$\qquad$

There are some red counters and some yellow counters in a bag in the ratio $1: 5$
(a) What fraction of the counters in the bag are red?
$\qquad$

There are 20 yellow counters in the bag.
(b) Work out the number of red counters in the bag.

Janet puts some more red counters into the bag.
The ratio of the number of red counters to the number of yellow counters is now $1: 2$
(c) How many red counters does Janet put into the bag?

Q12.
Emma has a digital photo.


720 pixels
The photo has a width of 720 pixels.
The photo has a height of 540 pixels.
(a) Write down the ratio of the width of the photo to the height of the photo.

Give your ratio in its simplest form.
$\qquad$

Emma wants the ratio of the width of the photo to the height of the photo to be $3: 2$
She reduces the number of pixels in the height of the photo.
The width of the photo is still 720 pixels.
The ratio of the width of the photo to the new height of the photo is $3: 2$
(b) Work out the new height of the photo.

## (Total for question = 4 marks)

Q13.
Jon shares $£ 700$ equally between his two children, Ellie and Maddie.
Ellie gives $£ 125$ of her share of the money to Maddie.
(a) Write down the ratio of the amount of money Ellie now has to the amount of money Maddie now has.

Jenny shares $£ 630$ between her two children, Daniel and Rose, in the ratio $5: 13$
(b) Work out how much money Jenny gives to each child.
$\qquad$
$\qquad$

## Q14.

Rob is learning about the planets.
Rob makes a model of the Sun.
He also makes a model of the planet Jupiter.
Rob is going to hang the two models in the school hall.
Rob wants a distance of 16 m between the two models.
The real distance between the planet Jupiter and the Sun is $8 \times 10^{8} \mathrm{~km}$.
Work out the scale Rob should use.
Give your answer in the form 1 : $n$

Q15.
60 children go to a nursery.
The ratio of girls to boys is $3: 2$
The children go to the nursery either in the morning or in the afternoon.
$\frac{3}{4}$
4 of the children go to the nursery in the morning.

The rest of the children go to the nursery in the afternoon.
7 boys go to the nursery in the afternoon.
Work out how many girls go to the nursery in the morning.

