

Questions

Q1.

(a) Work out $\frac{2}{7} + \frac{1}{5}$

.....
(2)

(b) Work out $1\frac{2}{3} \div \frac{3}{4}$

.....
(2)

(Total for question = 4 marks)

(Q18 1MA1/1F/N, Specimen papers)

Q2.

Lethna worked out $\frac{2}{5} + \frac{1}{2}$

She wrote:

$$\frac{2}{5} + \frac{1}{2} = \frac{2}{10} + \frac{1}{10} = \frac{3}{10}$$

The answer of $\frac{3}{10}$ is wrong.

(a) Describe one mistake that Lethna made.

.....
.....

(1)

Dave worked out $1\frac{1}{2} \times 5\frac{1}{3}$

He wrote:

$$1 \times 5 = 5 \quad \text{and} \quad \frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$$

so $1\frac{1}{2} \times 5\frac{1}{3} = 5\frac{1}{6}$

The answer of $5\frac{1}{6}$ is wrong.

(b) Describe one mistake that Dave made.

.....
.....

(1)

(Total for question is 2 marks)

(Q19 1MA1/2F/S1, Specimen papers)

Q3.

(a) Work out $2\frac{1}{7} + 1\frac{1}{4}$

.....
(2)

(b) Work out $1\frac{1}{5} \div \frac{3}{4}$

Give your answer as a mixed number in its simplest form.

.....
(2)

(Total for question = 4 marks)

(Q01 1MA1/1H, June 2018)

Q4.

(a) Work out $2\frac{1}{7} + 1\frac{1}{4}$

.....
(2)

(b) Work out $1\frac{1}{5} \div \frac{3}{4}$

Give your answer as a mixed number in its simplest form.

.....
(2)

(Total for question = 4 marks)

(Q19 1MA1/1F, June 2018)

Q5.

Here are two fractions.

$$\frac{7}{5} \qquad \frac{5}{7}$$

Work out which of the fractions is closer to 1
You must show all your working.

(Total for question = 3 marks)

(Q14 1MA1/1F, Nov 2017)

Q6.

Write 0.075 as a fraction.
Give your fraction in its simplest form.

.....
(Total for question = 2 marks)

(Q03 1MA1/2F/S2, Specimen papers)

Q7.

Write 0.19 as a fraction.

.....
(Total for question = 1 mark)

(Q02 1MA1/3F/S2, Specimen papers)

Q8.

Write $\frac{3}{5}$ as a percentage.

..... %

(Total for question = 1 mark)

(Q05 1MA1/3F/S2, Specimen papers)

Q9.

Write 0.037 as a fraction.

.....

(Total for question = 1 mark)

(Q02 1MA1/1F/N, Specimen papers)

Q10.

Write 0.21 as a fraction.

.....

(Total for question is 1 mark)

(Q03 1MA1/2F/S1, Specimen papers)

Q11.

Write $\frac{7}{16}$ as a decimal.

.....

(Total for question = 1 mark)

(Q02 1MA1/2F/N, Specimen papers)

Q12.

Write $\frac{7}{100}$ as a decimal.

.....

(Total for question = 1 mark)

(Q01 1MA1/2F, Nov 2017)

Q13.

Write $\frac{4}{5}$ as a percentage.

..... %

(Total for question = 1 mark)

(Q04 1MA1/1F, June 2017)

Q14.

Write $\frac{7}{10}$ as a percentage.

..... %

(Total for question = 1 mark)

(Q02 1MA1/1F/M2, Specimen papers)

Q15.

Write $\frac{7}{20}$ as a percentage.

..... %
(1)

(Total for question = 1 mark)

(Q03 1MA1/1F/M1, Specimen papers)

Q16.

Write $\frac{4}{50}$ as a percentage.

..... %

(Total for question = 1 mark)

(Q01 1MA1/2F, June 2018)

Q17.

Here is a list of four fractions.

$$\frac{4}{16} \quad \frac{2}{8} \quad \frac{15}{60} \quad \frac{3}{9}$$

One of these fractions is **not** equivalent to $\frac{1}{4}$

Write down this fraction.

.....

(Total for question = 1 mark)

(Q04 1MA1/1F, June 2018)

Q18.

There are 240 cans of drink on a shelf.
Each can contains cola or lemonade or orange.

$$\frac{\text{the number of cans of cola}}{\text{the number of cans of lemonade}} : \frac{\text{the number of cans of lemonade}}{\text{the number of cans of orange}} = 5:3:2$$

$\frac{1}{2}$ of the cans of lemonade and $\frac{1}{12}$ of the cans of orange are removed from the shelf.

Work out the number of cans of cola as a percentage of the total number of cans of drink remaining on the shelf.

Mathvault.io Solutions

..... %

(Total for question = 5 marks)

Q19.

Rizwan writes down three numbers a , b and c

$$a : b = 1 : 3$$
$$b : c = 6 : 5$$

(a) (i) Find $a : b : c$

.....
(2)

(ii) Express a as a fraction of the total of the three numbers a , b and c

.....
(2)

Emma writes down three numbers m , n and p

$$n = 2m$$
$$p = 5n$$

(b) Find $m : p$

.....
(2)

(Total for question = 6 marks)

(Q24 1MA1/1F, Nov 2022)

Q20.

$\frac{3}{5}$ of the people at a tennis club are women.

The rest of the people are men.

What fraction of the people are men?

.....

(Total for question = 1 mark)

(Q01 1MA1/3F/M3, Specimen papers)

Q21.

Here is a list of fractions.

$$\frac{3}{9} \quad \frac{5}{15} \quad \frac{7}{21} \quad \frac{9}{30} \quad \frac{15}{45}$$

One of these fractions is **not** equivalent to $\frac{1}{3}$

Which fraction?

.....

(Total for question = 1 mark)

(Q03 1MA1/3F/M3, Specimen papers)

Q22.

Sue has 2 cats.

Each cat eats $\frac{1}{4}$ of a tin of cat food each day.

Sue buys 8 tins of cat food.

Has Sue bought enough cat food to feed her 2 cats for 14 days?
You must show how you get your answer.

Mathvault.io Solutions

(Total for question = 3 marks)

(Q06 1MA1/1F, Nov 2018)

Q23.

Here are some fractions.

$$\frac{9}{12} \quad \frac{6}{8} \quad \frac{18}{24} \quad \frac{10}{16} \quad \frac{15}{20}$$

One of these fractions is **not** equivalent to $\frac{3}{4}$

(a) Which fraction?

(b) Work out $\frac{1}{12} + \frac{5}{6}$

.....
(1)

.....
(2)

(Total for question = 3 marks)

(Q11 1MA1/1F, Nov 2018)

Q24.

Write 0.31 as a fraction.

.....
(Total for question = 1 mark)

(Q05 1MA1/2F, Nov 2018)

Q25.

Here are four fractions.

$$\frac{3}{4}$$

$$\frac{5}{7}$$

$$\frac{19}{25}$$

$$\frac{11}{15}$$

Write the fractions in order of size.
Start with the smallest fraction.

.....
(Total for question = 2 marks)

(Q06 1MA1/2F, Nov 2018)

Q26.

Work out $\frac{1}{8}$ of 720

(Total for question = 1 mark)

(Q04 1MA1/3F, Nov 2018)

Q27.

Write the following fractions in order of size.
Start with the smallest fraction.

$$\frac{1}{3} \quad \frac{3}{4} \quad \frac{1}{4} \quad \frac{7}{12} \quad \frac{1}{2}$$

(Total for question = 2 marks)

(Q08 1MA1/1F, June 2019)

Q28.

(a) Work out $\frac{1}{5}$ of 70

.....
(1)

Fiona has to work out the exact value of $48 \div \frac{1}{2}$

She writes

$$48 \div \frac{1}{2} = 24$$

Fiona's reason is,

"There are 2 halves in 1, so there will be 24 halves in 48"

(b) Explain what is wrong with Fiona's reason.

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

(1)

(Total for question = 2 marks)

(Q14 1MA1/1F, June 2019)

Q29.

(a) Work out $\frac{2}{3} - \frac{1}{5}$

.....
(2)

(b) Work out $\frac{2}{3} \times \frac{3}{4}$

Give your answer as a fraction in its simplest form.

.....
(2)

(Total for question = 4 marks)

(Q19 1MA1/1F, June 2019)

Q30.

Work out $3\frac{1}{2} \times 1\frac{3}{5}$

Give your answer as a mixed number in its simplest form.

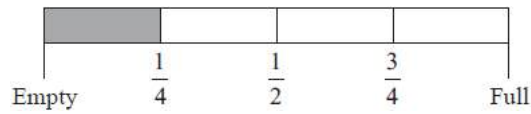
Mathsvault.io Solutions

.....
(Total for question = 3 marks)

(Q09 1MA1/1H, June 2019)

Q31.

Here is the gauge for the fuel tank of a car.



The fuel tank holds 52 litres of fuel when the tank is full.

The tank is $\frac{1}{4}$ full of fuel.

Work out how many more litres of fuel are needed to fill the tank.

..... litres

(Total for question = 3 marks)

(Q08 1MA1/3F, June 2019)

Q32.

Bill has 400 counters in a bag.

He gives

35 of the counters to Sameena

50 of the counters to Henry

75 of the counters to Lucas

What fraction of the 400 counters is left in Bill's bag?

Give your fraction in its simplest form.

.....

(Total for question = 3 marks)

(Q10 1MA1/3F, June 2019)

Q33.

Work out $1\frac{3}{4} \times 1\frac{1}{3}$

Give your answer as a mixed number.

.....

(Total for question = 3 marks)

(Q03 1MA1/1H, Nov 2019)

Q34.

Write the fraction $\frac{28}{70}$ in its simplest form.

.....

(Total for question = 1 mark)

(Q04 1MA1/1F, Nov 2019)

Q35.

Work out $1\frac{3}{4} \times 1\frac{1}{3}$

Give your answer as a mixed number.

.....

(Total for question = 3 marks)

(Q22 1MA1/1F, Nov 2019)

Q36.

Harry has 20 sweets.
He gives 7 of the sweets to Nadia.

What fraction of the 20 sweets does Harry have now?

.....

(Total for question = 2 marks)

(Q07 1MA1/2F, Nov 2019)

Q37.

Find the number that is exactly halfway between $\frac{1}{10}$ and $\frac{3}{5}$

.....

(Total for question = 2 marks)

(Q12 1MA1/2F, Nov 2019)

Q38.

Find $\frac{1}{3}$ of 30

.....

(Total for question = 1 mark)

(Q02 1MA1/3F, Nov 2019)

Q39.

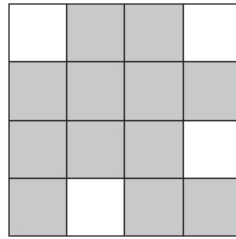
Work out $\frac{1}{3}$ of 24

.....

(Total for question = 1 mark)

(Q02 1MA1/3F, Nov 2020)

Q40.



What fraction of the shape is shaded?
Give your answer in its simplest form.

.....
(Total for question = 2 marks)

(Q07 1MA1/3F, Nov 2020)

Q41.

Show that

$$2\frac{1}{3} \times 3\frac{3}{4} = 8\frac{3}{4}$$

(Total for question = 3 marks)

(Q02 1MA1/1H, Nov 2020)

Q42.

Show that

$$2\frac{1}{3} \times 3\frac{3}{4} = 8\frac{3}{4}$$

(Total for question = 3 marks)

(Q21 1MA1/1F, Nov 2020)

Q43.

Work out $4\frac{1}{5} - 2\frac{2}{3}$

Give your answer as a mixed number.

(Total for question = 3 marks)

(Q22 1MA1/1F, Nov 2021)

Q44.

Work out $4\frac{1}{5} - 2\frac{2}{3}$

Give your answer as a mixed number.

.....

(Total for question = 3 marks)

(Q03 1MA1/1H, Nov 2021)

Q45.

Write 17 as a fraction of 30

.....

(Total for question = 1 mark)

(Q10 1MA1/2F, Nov 2021)

Q46.

Write the following fractions in order of size.
Start with the smallest fraction.

$$\frac{5}{8} \quad \frac{2}{3} \quad \frac{4}{9} \quad \frac{3}{5}$$

.....

(Total for question = 2 marks)

(Q15 1MA1/2F, Nov 2021)

Q47.

Rachel, Samina and Tom share £600 between them.

Rachel gets $\frac{2}{5}$ of the £600

Samina gets $\frac{1}{4}$ of the money that is left over.

Tom gets the rest of the money.

Tom says,

"I would have got more money if we had shared the £600 equally between us."

Is Tom correct?

You must show how you get your answer.

(Total for question = 4 marks)

(Q19 1MA1/2F, Nov 2021)

Q48.

Work out $\frac{1}{6}$ of 66

.....
(Total for question = 1 mark)

(Q04 1MA1/3F, Nov 2021)

Q49.

A stadium cost £600 million.

$\frac{13}{15}$ of this cost was for the building.

The rest of the cost was for the land.

Work out the cost of the land.

£ million

(Total for question = 3 marks)

(Q14 1MA1/3F, Nov 2021)

Q50.

(a) Work out $\frac{5}{12} + \frac{1}{6}$

.....
(2)

(b) Work out $\frac{3}{10} \times \frac{5}{8}$

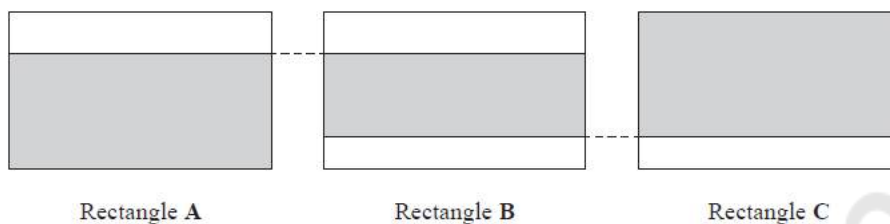
Give your answer as a fraction in its simplest form.

.....
(2)

(Total for question = 4 marks)

Q51.

The diagram shows three identical rectangles **A**, **B** and **C**.



$\frac{5}{8}$ of rectangle **A** is shaded.

$\frac{9}{11}$ of rectangle **C** is shaded.

Work out the fraction of rectangle B that is shaded.

.....
(Total for question = 3 marks)

(Q20 1MA1/1F, June 2022)

Q52.

Write a fraction in the box to make the calculation correct.

$$1 - \frac{3}{10} = \boxed{\dots\dots\dots}$$

(Total for question = 1 mark)

(Q02 1MA1/2F, June 2022)

Q53.

Work out $\frac{1}{4}$ of 28

.....
(Total for question = 1 mark)

(Q02 1MA1/3F, June 2022)

Q54.

Write 60 metres as a fraction of 1000 metres.
Give your answer in its simplest form.

.....
(Total for question = 2 marks)

(Q12 1MA1/3F, June 2022)

Q55.

Write 37% as a fraction.

.....
(Total for question = 1 mark)

(Q02 1MA1/2F, Nov 2022)

Q56.

(a) Work out $\frac{5}{8}$ of 132

.....
(2)

(b) Write the following fractions in order of size.

Start with the smallest fraction.

$$\frac{3}{8} \quad \frac{9}{32} \quad \frac{1}{4} \quad \frac{21}{64}$$

.....
(2)

(Total for question = 4 marks)

(Q12 1MA1/2F, Nov 2022)

Q57.

Write 0.3 as a fraction.

.....

(Total for question = 1 mark)

(Q01 1MA1/1F, Nov 2022)

Q58.

(a) Work out $1\frac{3}{5} + 2\frac{1}{4}$

Give your answer as a mixed number.

(b) Show that $2\frac{2}{3} \div 6 = \frac{4}{9}$

.....
(2)

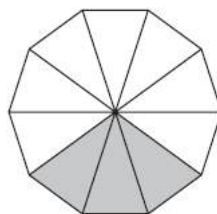
(2)

(Total for question = 4 marks)

(Q02 1MA1/1H, Nov 2022)

Q59.

What fraction of this shape is shaded?



.....
(Total for question = 1 mark)

(Q02 1MA1/1F, June 2023)

Q60.

Work out $\frac{6}{7} \times \frac{5}{12}$

Give your answer as a fraction in its simplest form.

.....

(Total for question = 2 marks)

(Q15 1MA1/1F, June 2023)

Q61.

Work out $7\frac{3}{8} - 2\frac{1}{2}$

Give your answer as a mixed number.

.....

(Total for question = 3 marks)

(Q21 1MA1/1F, June 2023)

Q62.

Work out $7\frac{3}{8} - 2\frac{1}{2}$

Give your answer as a mixed number.

.....
(Total for question = 3 marks)

(Q02 1MA1/1H, June 2023)

Q63.

There are 50 teachers in a school.

This is $\frac{1}{16}$ of the total number of people in the school.

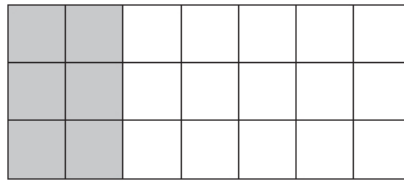
Work out the total number of people in the school.

.....
(Total for question = 2 marks)

(Q13 1MA1/2F, June 2023)

Q64.

Here is a grid of squares.



What fraction of the grid is shaded?

.....

(Total for question = 1 mark)

(Q04 1MA1/3F, Nov 2023)

Q65.

Write 0.9 as a fraction.

.....

(Total for question = 1 mark)

(Q02 1MA1/2F, Nov 2023)

Q66.

Work out $\frac{1}{5}$ of 300

.....

(Total for question = 1 mark)

(Q05 1MA1/1F, Nov 2023)

Q67.

Work out $\frac{3}{5} \div \frac{1}{6}$

Give your answer as a mixed number.

Mathsvault.io Solutions

.....
(Total for question = 3 marks)

(Q17 1MA1/1F, Nov 2023)

Q68.

(a) Work out $3\frac{4}{5} - 1\frac{2}{3}$

Kevin was asked to work out $2\frac{1}{3} \times \frac{5}{8}$

Here is his working and his answer.

$$\begin{aligned} 2\frac{1}{3} \times \frac{5}{8} &= \frac{7}{3} \times \frac{5}{8} \\ &= \frac{35}{24} \\ &= 1\frac{9}{24} \end{aligned}$$

Kevin's answer is wrong.

(b) What mistake has Kevin made?

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

.....
(2)

(1)

(Total for question = 3 marks)

(Q21 1MA1/1F, June 2024)

Q69.

(a) Work out $3\frac{4}{5} - 1\frac{2}{3}$

Kevin was asked to work out $2\frac{1}{3} \times \frac{5}{8}$

Here is his working and his answer.

$$\begin{aligned} 2\frac{1}{3} \times \frac{5}{8} &= \frac{7}{3} \times \frac{5}{8} \\ &= \frac{35}{24} \\ &= 1\frac{9}{24} \end{aligned}$$

Kevin's answer is wrong.

(b) What mistake has Kevin made?

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

(2)

(1)

(Total for question = 3 marks)

(Q02 1MA1/1H, June 2024)

Q70.

Write the following fractions in order of size.
Start with the smallest fraction.

$$\frac{1}{2} \quad \frac{2}{3} \quad \frac{1}{4}$$

.....

(Total for question = 1 mark)

(Q05 1MA1/3F, June 2024)

Q71.

Work out $\frac{1}{6}$ of 96

.....

(Total for question = 1 mark)

(Q02 1MA1/3F, Nov 2024)

Q72.

Write 0.75 as a fraction.

.....

(Total for question = 1 mark)

(Q01 1MA1/2F, June 2019)

Q73.

Write 0.7 as a fraction.

.....

(Total for question = 1 mark)

(Q03 1MA1/3F, Nov 2019)

Q74.

Write $\frac{3}{4}$ as a decimal.

.....

(Total for question = 1 mark)

(Q04 1MA1/1F, Nov 2020)

Q75.

Write 0.37 as a fraction.

.....

(Total for question = 1 mark)

(Q01 1MA1/2F, Nov 2020)

Q76.

Write $\frac{9}{100}$ as a decimal.

.....

(Total for question = 1 mark)

(Q03 1MA1/1F, Nov 2021)

Q77.

Write $\frac{4}{5}$ as a decimal.

.....

(Total for question = 1 mark)

(Q03 1MA1/3F, Nov 2022)

Q78.

(a) Work out $3\frac{1}{2} - 1\frac{1}{6}$

Give your answer as a mixed number.

(b) Show that $5\frac{1}{4} \div 2\frac{1}{3} = 2\frac{1}{4}$

.....
(2)

(3)

(Total for question = 5 marks)

(Q20 1MA1/1F, Nov 2024)

Q79.

(a) Work out $1\frac{3}{5} + 2\frac{1}{4}$

Give your answer as a mixed number.

.....
(2)

(b) Show that $2\frac{2}{3} \div 6 = \frac{4}{9}$

(2)

(Total for question = 4 marks)

(Q20 1MA1/1F, Nov 2022)

Q80.

Write 3% as a fraction.

.....

(Total for question = 1 mark)

(Q02 1MA1/3F, Nov 2018)

Q81.

Write 40% as a fraction.

.....

(Total for question = 1 mark)

(Q03 1MA1/3F, Nov 2020)

Q82.

Write $\frac{1}{4}$ as a percentage.

.....

(Total for question = 1 mark)

(Q04 1MA1/2F, Nov 2020)

Q83.

An exam has two papers, Paper 1 and Paper 2

Paper 1 has 60 marks.

Paper 2 has 90 marks.

The pass mark is $\frac{2}{3}$ of the total number of marks.

Danielle gets 70% of the marks for Paper 1

How many of the marks for Paper 2 must Danielle get in order to get the pass mark?

.....

(Total for question = 4 marks)

(Q16 1MA1/2F, Nov 2020)

Q84.

Write $\frac{3}{10}$ as a percentage.

..... %

(Total for question = 1 mark)

(Q01 1MA1/1F, Nov 2021)

Q85.

Elena spent 120 minutes at a sports centre.

She played badminton for 50 minutes.

She used the swimming pool for $\frac{1}{6}$ of the 120 minutes.

She used the gym for 20% of the 120 minutes.

She then spent the rest of the 120 minutes in the cafe.

(a) Work out the total time, in minutes, that Elena spent in the cafe.

..... minutes

(4)

Elena got to the sports centre at 1.30 pm.

She had asked her friend to meet her in the cafe at 3 pm.

(b) Did Elena get to the cafe by 3 pm?

Give a reason for your answer.

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

(1)

(Total for question = 5 marks)

(Q12 1MA1/1F, Nov 2022)

Q86.

Write 0.09 as a fraction.

.....

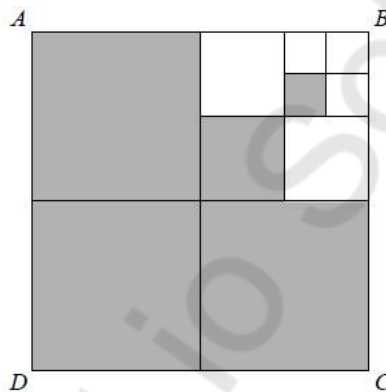
(Total for question = 1 mark)

(Q03 1MA1/1F/M3, Specimen papers)

Q87.

$ABCD$ is a square.

This diagram is drawn accurately.



What fraction of the square $ABCD$ is shaded?

.....

(Total for question = 2 marks)

(Q07 1MA1/2F/N, Specimen papers)

Q88.

Here are four fractions.

$$\frac{2}{5} \quad \frac{11}{30} \quad \frac{1}{2} \quad \frac{7}{15}$$

Write these fractions in order of size.
Start with the smallest fraction.

.....

(Total for question = 2 marks)

(Q04 1MA1/2F, June 2017)

Q89.

There are only black pens and green pens in a box.
The ratio of the number of black pens in the box to the number of green pens in the box is 2 : 5

What fraction of the pens are black?

.....

(Total for question = 1 mark)

(Q10 1MA1/1F/N, Specimen papers)

Q90.

Here are five fractions.

$$\frac{2}{8} \quad \frac{10}{40} \quad \frac{12}{48} \quad \frac{5}{24} \quad \frac{20}{80}$$

One of these fractions is **not** equivalent to $\frac{1}{4}$

(a) Write down this fraction.

.....
(1)

(b) Work out $\frac{2}{7} + \frac{1}{14}$

.....
(2)

(c) Work out $\frac{4}{5} \div \frac{3}{10}$

Give your answer in its simplest form.

.....
(2)

(Total for question = 5 marks)

(Q09 1MA1/1F/S2, Specimen papers)

Q91.

Work out $2\frac{3}{5} - 1\frac{5}{6}$

.....
(Total for question = 3 marks)

(Q17 1MA1/1F/M1, Specimen papers)

Q92.

Work out $2\frac{3}{5} - 1\frac{5}{6}$

.....
(Total for question = 3 marks)

(Q01 1MA1/1H/M1, Specimen papers)

Q93.

There are 375 pupils at a school.
195 of the pupils are boys.

$\frac{3}{5}$ of the boys walk to school.

$\frac{2}{3}$ of the girls walk to school.

Work out how many pupils walk to school.

.....
(Total for question = 3 marks)

(Q08 1MA1/3F/M1, Specimen papers)

Q94.

Jim thinks of a number.

$\frac{2}{3}$ of Jim's number is 48

Work out $\frac{5}{6}$ of Jim's number.

.....
(Total for question = 2 marks)

(Q10 1MA1/3F, Nov 2017)

Q95.

Living to 100 years old

1 in 3 babies born last year
are expected to live
to 100 years old

720 000 babies were born last year.

How many of these babies are expected to live to 100 years old?

.....

(Total for question = 2 marks)

(Q05 1MA1/2F/S2, Specimen papers)

Q96.

There are 495 coins in a bottle.

$\frac{1}{3}$ of the coins are £1 coins.

124 of the coins are 50p coins.
The rest of the coins are 20p coins.

Work out the total value of the 495 coins.

£

(Total for question = 4 marks)

(Q06 1MA1/2F, June 2017)

Q97.

$\frac{4}{5}$ of a number is 32

Find the number.

.....
(Total for question = 2 marks)

(Q04 1MA1/3F, June 2017)

Q98.

There are 6760 people at a rugby match.

3879 of the people are men.

1241 of the people are women.

$\frac{1}{4}$ of the children are girls.

Work out how many boys are at the rugby match.

.....
(Total for question = 3 marks)

(Q03 1MA1/3F/N, Specimen papers)