Write your name here

Surname	Other names

In the style of:

Edexcel GCSE

Centre Number	Candidate Number

Mathematics A

Fractions

Foundation Tier

Past Paper Style Questions
Arranged by Topic

Paper Reference
1MA0/2F

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- **Calculators may be used.**

Information

- The total mark for this paper is 100
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed.

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.

Turn over ▶

1. David earns a salary of £3500 per month.

He gets a pay rise of 4%.

Work out his new monthly salary.

3500 + 4% of 3500

= 3500 + (0.04 × 3500)

= 3500 + 140

= £3,640·00

Alternatively, to increase a given amount by 4%, multiply by 1.04, i.e. 3500 × 1.04 = £3,640

£ 3,640 ..... **(3)**

2(a) Helen wins a race.

Her time is recorded as 50.36 seconds. Andrew comes second in the race.

His time is three-hundredths of a second slower.

Work out Andrew's time.

$50.36 + 0.03 = 50.39$ seconds

(2)

(b) Round Michael's time of 50.36 seconds to 1 decimal place.

50.36 = 50.4 seconds (1 d.p.).

(1)

(Total 6 marks)

3. Write a number in each box to make correct statements.

(a) $50\% = \frac{\boxed{1}}{2}$

(1)

(b) $0.3 = \frac{\boxed{3}}{10}$

(1)

(c) $\frac{1}{3} = \frac{\boxed{3}}{9}$

(1)

(d) $\frac{3}{15} = \frac{\boxed{1}}{5}$

(1)

Total 4 marks)

4. Two banks calculate the yearly interest they pay customers.

Westminster Bank	**District Bank**
4% of the total that you invest For example: Invest £700 Interest = 4% of £700	1% of the first £300 that you invest 6% of amounts over £300 that you invest For example: Invest £700 Interest =1% of £300 + 6% of £400

Ashna has £500 to invest for one year.

Work out which bank will pay her more interest.
State how much **extra** interest she will earn.

Westminster

4% of 500 = 0.04 × 500 = £20

District

(0.01 × 300) + 0.06 (500 − 300)
= £15

Bank Westminster

Extra Interest £ 5

(5)

5 There are 180 people at a wedding. 20% are children.

One-half are men. The rest are women.

How many women are at the wedding?

$\frac{1}{2} = 50\%$

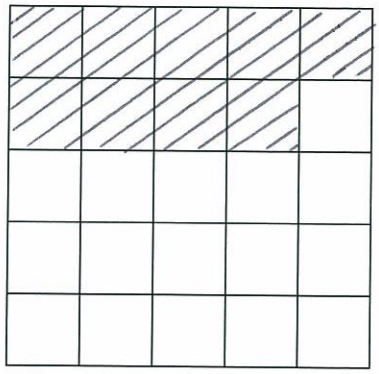
$50\% + 20\% = 70\% \Rightarrow$ 30% are women.

30% of 180 = 54

Answer 54

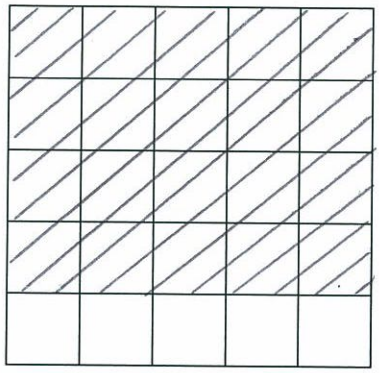
(4)

6 (a) Shade $\frac{9}{25}$ of this square grid.



(1)

(b) Shade $\frac{4}{5}$ of this square grid.



(1)

(c) Use your answers to part (a) and part (b) to write down the answer to $\frac{4}{5} - \frac{9}{25}$

$\frac{20}{25} - \frac{9}{25} = \frac{11}{25}$

Answer ..... $\frac{11}{25}$ .....

(1)

(d) Work out $\frac{2}{3}$ of 36

$(36 \div 3) \times 2$

$= 12 \times 2$

$= 24$

Answer ..... 24 .....

(2)

7. (a) Use your calculator to work out $\frac{4.7}{9.4-3.5}$

Write down all the figures on your calculator display.

0.796610169 5

(2)

(b) Write these numbers in order of size.
Start with the smallest number.

0.82 $\frac{4}{5}$ 85% $\frac{2}{3}$ $\frac{7}{8}$

$\frac{2}{3}$, $\frac{4}{5}$, 0.82, 85%, $\frac{7}{8}$

(2)
(Total 4 marks)

9. A concert ticket costs £65 plus a booking charge of 15%.

Work out the total cost of a concert ticket.

$65 \times 1.15 = £74.75$

£ 74.75

(Total 3 marks)

10. A school canteen sells salads and hot meals.

In one week the number of salads sold and the number of hot meals sold were in the ratio 3 : 5

The total number of salads and hot meals sold in the week was 1456

Work out the number of salads sold.

$\frac{3}{8} \times 1456 = 546$

546

(Total 2 marks)

11. A garage sells British cars and foreign cars.
The ratio of the number of British cars sold to the number of foreign cars sold is 2 : 7

The garage sells 45 cars in one week.

(a) Work out the number of British cars the garage sold that week.

$\frac{2}{9} \times 45 = 10$

10

(2)

A car tyre costs £80 plus VAT at $17\frac{1}{2}$ %.

(b) Work out the total cost of the tyre.

$80 \times 1.175 = £94$

£ 94

(3)

The value of a new car is £14 000

The value of the car depreciates by 20% per year.

(c) Work out the value of the car after 2 years.

$14000 \times 0.8^2 = £8,960$

£ 8,960

(3)

(Total 8 marks)

12. There are some pens in a bag.

36 of the pens are blue.

24 of the pens are black.

(a) Write down the ratio of the number of blue pens to the number of black pens.
Give your ratio in its simplest form.

$\div 12 \left(\begin{matrix} 36 : 24 \\ 3 : 2 \end{matrix} \right) \div 12$

3 : 2

(2)

There are some books and comics in a box.
The total number of books and comics is 54
The ratio of the number of books to the number of comics is 1 : 5

(b) Work out the number of books in the box.

$\frac{1}{6} \times 54 = 9$

9

(2)

(Total 4 marks)

13. Louis invested £6500 for 2 years in a savings account.

He was paid 4% per annum compound interest.

(a) How much did Louis have in his savings account after 2 years?

$6500 \times 1.04^2 = £7,030.40$

£ 7,030.40

(3)

Hassan invested £2400 for n years in a savings account.

He was paid 7.5% per annum compound interest.

At the end of the n years he had £3445.51 in the savings account.

(b) Work out the value of n.

Solve $2400 \times 1.075^n = 3445.51$

Use a calculator to show that 2400 multiplied by 1.075 5 successive times gives the answer 3445.51 (2d.p.).

i.e. $2400 \times 1.075^5 = 3445.51$ (2d.p.).

$\therefore n = 5$.

For more advanced students,

$2400 \times 1.075^n = 3445.51$

$\Rightarrow 1.075^n = \frac{3445.51}{2400}$

$\Rightarrow n = \frac{\log(3445.51/2400)}{\log 1.075} = 5$ (nearest integer)

5

(2)

(Total 5 marks)

14. (a) Work out $\frac{2}{3} \div \frac{7}{9}$

Give your fraction in its simplest form.

$\frac{2}{3} \times \frac{9}{7} = \frac{2 \times 9}{3 \times 7} = \frac{18}{21} = \frac{6}{7}$

$\frac{6}{7}$

.....

(3)

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

$\frac{2 \times 3 + 1}{3} - \frac{1 \times 5 + 2}{5}$

$= \frac{7}{3} - \frac{7}{5}$

$= \frac{(7 \times 5) - (7 \times 3)}{3 \times 5} = \frac{35 - 21}{15}$

$= \frac{14}{15}$

$\frac{14}{15}$

.....

(3)

(Total 6 marks)

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