Name	Class

MATHS TEACHER HUB

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Fractions

(9 – 1) Topic booklet

These questions have been collated from previous years GCSE Mathematics papers.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.

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*.
•Diagrams are NOT accurately drawn, unless otherwise indicated.
•You must **show all your working out.**
•If the question is a **1F** question you are not allowed to use a calculator.
•If the question is a **2F** or a **3F** question, you may use a calculator to help you answer.

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.

Answer ALL questions
Write your answers in the space provided.
You must write down all the stages in your working.

1 $\frac{2}{7} + \square = 1$

(1)

November 2018 – Paper 3F **(Total for Question 1 is 1 mark)**

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

$1 - \frac{3}{10} = \square$

June 2022 – Paper 2F **(Total for Question 2 is 1 mark)**

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

.....

November 2019 – Paper 1F **(Total for Question 4 is 1 mark)**

4 Here is a list of four fractions.

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

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

Write down this fraction.

.....

May 2018 – Paper 1F **(Total for Question 4 is 1 mark)**

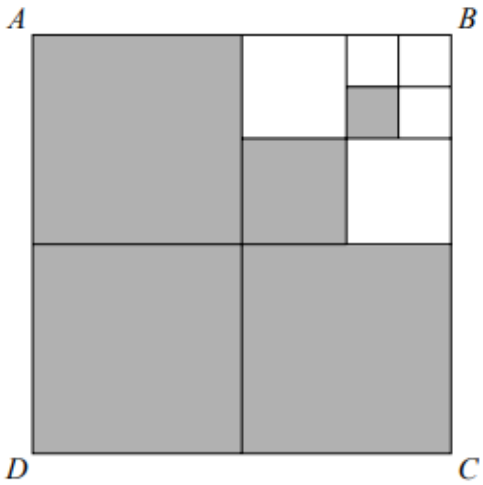
7 Harry has 20 sweets.
He gives 7 of the sweets to Nadia.

What fraction of the 20 sweets does Harry have now?

.....

November 2019 – Paper 2F **(Total for Question 7 is 2 marks)**

7 *ABCD* is a square.
This diagram is drawn accurately.



What fraction of the square *ABCD* is shaded?

.....

Sample 1 – Paper 2F **(Total for Question 7 is 2 marks)**

8 (a) Work out $\frac{5}{8} \times \frac{3}{4}$

.....

(1)

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

.....

(2)

June 2017 – Paper 1F **(Total for Question 8 is 3 marks)**

9 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 9 is 5 marks)

11 Here are some fractions.

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

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

(a) Which fraction?

.....

(1)

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

.....

(2)

(Total for Question 11 is 3 marks)

12 (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 12 is 4 marks)

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

.....

November 2019 – Paper 2F **(Total for Question 12 is 2 marks)**

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

Give your answer as a fraction in its simplest form.

.....

June 2023 – Paper 1F **(Total for Question 15 is 2 marks)**

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

.....

(2)

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

.....

(2)

Sample 1 – Paper 1F **(Total for Question 18 is 4 marks)**

19 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:

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

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

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

(b) Describe one mistake that Dave made.

.....

.....

(1)

(Total for Question 19 is 2 marks)

19 (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)

June 2019 – Paper 1F **(Total for Question 19 is 4 marks)**

19 (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 19 is 4 marks)

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

Give your answer as a mixed number.

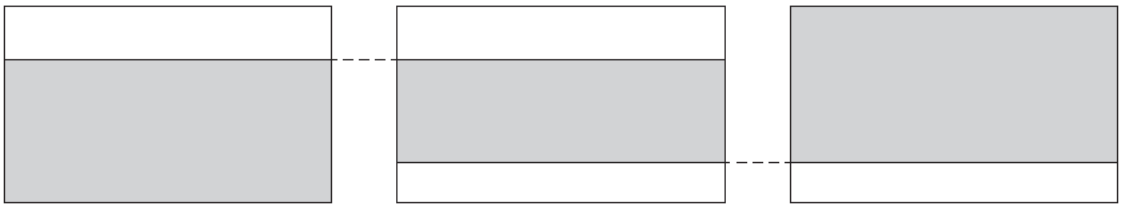
(2)

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

(2)

(Total for Question 20 is 4 marks)

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



Rectangle **A** Rectangle **B** Rectangle **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 20 is 3 marks)

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

May 2020 – Paper 1F **(Total for Question 21 is 3 marks)**

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

Give your answer as a mixed number.

.....

(Total for Question 22 is 3 marks)

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

Give your answer as a mixed number.

.....

(Total for Question 22 is 3 marks)

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

.....

(2)

(Total for Question 22 is 2 marks)