

Name: _____

GCSE (1 – 9)

Fractions

Instructions

- Use **black** ink or ball-point pen.
- 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.**

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

1 Work out $\frac{1}{10} + \frac{3}{5}$

$$\frac{1}{10} + \frac{6}{10}$$

$$\frac{7}{10}$$

(Total for question 1 is 2 marks)

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

$$4 \times \frac{2}{3} - \frac{1}{4} \times 3$$

$$4 \times \frac{2}{3} - \frac{3}{4} \times 3$$

$$\frac{8}{12} - \frac{3}{12}$$

$$\frac{5}{12}$$

(2)

(b) Work out $\frac{3}{4} \times \frac{4}{9}$

Give your answer as a fraction in its simplest form.

$$\frac{12}{36} = \frac{1}{3}$$

$$\frac{1}{3}$$

(2)

(Total for question 2 is 4 marks)

3

Work out $\frac{3}{4} \times \frac{5}{6}$

$$\frac{15}{24} = \frac{5}{8}$$

$$\frac{5}{8}$$

(Total for question 3 is 2 marks)

4

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

$$4 \times \frac{1}{5} + \frac{3 \times 5}{4 \times 5}$$

$$\frac{4}{20} + \frac{15}{20}$$

$$\frac{19}{20}$$

(2)

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

$$3 \times \frac{4}{5} - \frac{1 \times 5}{3 \times 5}$$

$$\frac{12}{15} - \frac{5}{15}$$

$$\frac{7}{15}$$

(2)

(Total for question 4 is 4 marks)

5 Work out $\frac{3}{4} + \frac{1}{12}$

$$\begin{array}{l} \times 3 \\ \times 3 \end{array} \frac{3}{4} + \frac{1}{12}$$

$$\frac{9}{12} + \frac{1}{12} = \frac{10}{12} = \frac{5}{6}$$

$$\frac{5}{6}$$

(Total for question 5 is 2 marks)

6 (a) Work out $\frac{4}{9} + \frac{3}{5}$

$$\begin{array}{l} 5 \times \\ 5 \times \end{array} \frac{4}{9} + \frac{3}{5} \times 9$$

$$\frac{20}{45} + \frac{27}{45} = \frac{47}{45} \quad \text{OR} \quad 1 \frac{2}{45}$$

$$\frac{47}{45}$$

(2)

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

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

$$\frac{3}{5} \times \frac{8}{3} = \frac{24}{15} = \frac{8}{5} = 1 \frac{3}{5}$$

$$1 \frac{3}{5}$$

(2)

(Total for question 6 is 4 marks)

7

Work out $\frac{1}{7} \div \frac{3}{4}$

$$\frac{1}{7} \times \frac{4}{3} = \frac{4}{21}$$

$$\frac{4}{21}$$

(Total for question 7 is 2 marks)

8

(a) Work out $\frac{5}{6} - \frac{1}{7}$

$$\begin{array}{r} 7 \times \frac{5}{6} - \frac{1 \times 6}{7 \times 6} \end{array}$$

$$\frac{35}{42} - \frac{6}{42} = \frac{29}{42}$$

$$\frac{29}{42}$$

(2)

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

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

$$\frac{7}{4} \times \frac{3}{2} = \frac{21}{8} = 2\frac{5}{8}$$

$$2\frac{5}{8}$$

(2)

(Total for question 8 is 4 marks)

9 Work out $\frac{1}{5} + \frac{2}{7}$

$$\frac{7 \times 1}{7 \times 5} + \frac{2 \times 5}{7 \times 5}$$

$$\frac{7}{35} + \frac{10}{35} = \frac{17}{35}$$

$$\frac{17}{35}$$

(Total for question 9 is 2 marks)

10 (a) Work out $\frac{3}{4} - \frac{7}{10}$

$$\frac{5 \times 3}{5 \times 4} - \frac{7 \times 2}{10 \times 2}$$

$$\frac{15}{20} - \frac{14}{20} = \frac{1}{20}$$

$$\frac{1}{20}$$

(2)

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

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

$$\frac{7}{3} \times \frac{3}{5} = \frac{7}{5} = 1\frac{2}{5}$$

$$1\frac{2}{5}$$

(2)

(Total for question 10 is 4 marks)

11

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

$$5 \times \frac{5}{6} - \frac{2 \times 6}{5 \times 6}$$

$$\frac{25}{30} - \frac{12}{30} = \frac{13}{30}$$

$$\frac{13}{30}$$

(Total for question 11 is 2 marks)

12

(a) Work out $\frac{7}{8} \div \frac{3}{4}$

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

$$\frac{7}{\cancel{8}} \times \frac{\cancel{4}^1}{3} = \frac{7}{6} = 1 \frac{1}{6}$$

$$1 \frac{1}{6}$$

(b) Work out $1\frac{5}{6} \times \frac{2}{9}$

$$\frac{11}{6} \times \frac{2}{9} = \frac{22}{54} = \frac{11}{27}$$

$$\frac{11}{27}$$

(2)

(Total for question 12 is 4 marks)

13 Work out $1\frac{3}{5} \div \frac{3}{4}$

$$\frac{8}{5} \div \frac{3}{4}$$

$$\frac{8}{5} \times \frac{4}{3} = \frac{32}{15} \quad \text{or} \quad 2\frac{2}{15}$$

$$\frac{32}{15}$$

(Total for question 13 is 2 marks)

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

$$7 \times \frac{11}{5} + \frac{8}{7} \times 5$$

$$7 \times \frac{11}{5} + \frac{8}{7} \times 5$$

$$\frac{77}{35} + \frac{40}{35} = \frac{117}{35} \quad \text{or} \quad 3\frac{12}{35}$$

$$\frac{117}{35}$$

(2)

(b) Work out $1\frac{1}{6} \div \frac{2}{3}$

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

$$\frac{7}{6} \div \frac{2}{3}$$

$$\frac{7}{6} \times \frac{3}{2} = \frac{7}{4} = 1\frac{3}{4}$$

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

(2)

(Total for question 14 is 4 marks)