

FRACTIONS (THE FOUR RULES)

[ESTIMATED TIME: 50 minutes]

GCSE

(+ IGCSE) EXAM QUESTION PRACTICE

1.

[2 marks]

Show that $\frac{3}{4} + \frac{4}{5} = 1\frac{11}{20}$

2.

[2 marks]

Show that $\frac{4}{9} - \frac{1}{6} = \frac{5}{18}$

3.**[2 marks]**

Show that $\frac{3}{8} \div \frac{7}{12} = \frac{9}{14}$

4.**[4 marks]**

(a) Show that $\frac{7}{8} - \frac{5}{6} = \frac{1}{24}$

(2)

(b) Show that $\frac{5}{8} \div \frac{7}{12} = 1\frac{1}{14}$

(2)

5.**[3 marks]**

Show that $1\frac{2}{3} \div \frac{3}{4} = 2\frac{2}{9}$.

(3)

6.**[5 marks]**

(a) Show that $\frac{4}{5} + \frac{2}{3} = 1\frac{7}{15}$

(2)

(b) Show that $2\frac{1}{4} \div 3\frac{1}{2} = \frac{9}{14}$

(3)

(a) Show that $\frac{6}{7} \div 4 = \frac{3}{14}$

(2)

(b) Show that $3\frac{2}{5} - 1\frac{2}{3} = 1\frac{11}{15}$

(3)

(a) Show that $1\frac{1}{5} \times 2\frac{1}{3} = 2\frac{4}{5}$

(3)

- (b) Write the numbers 3, 4, 5 and 6 in the boxes to give the greatest possible total.
You may write each number only once.

$$\begin{array}{c} \square \\ \square \end{array} \frac{1}{\square} + 2 \frac{\begin{array}{c} \square \\ \square \end{array}}{\square}$$

(1)

(a) $\frac{3}{10}$ of the members of a tennis club are men.

$\frac{5}{6}$ of these men are right-handed.

Work out the fraction of the members of the tennis club who are right-handed men.

.....
(2)

(b) $\frac{7}{12}$ of the members of a badminton club are women.

$\frac{3}{8}$ of the members of the badminton club wear glasses.

Work out the smallest possible number of members of the badminton club.

.....
(2)

(a) Nikos drinks $\frac{2}{3}$ of a litre of orange juice each day.
How many litres does Nikos drink in 5 days?
Give your answer as a mixed number.

.....
(2)

(b) (i) Find the lowest common multiple of 4 and 6.

.....

(ii) Work out $3\frac{3}{4} + 2\frac{5}{6}$.
Give your answer as a mixed number.
You must show all your working.

.....
(3)

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)

(a) Show that $\frac{3}{10} + \frac{2}{15} = \frac{13}{30}$

(2)

(b) Show that $2\frac{5}{8} \div 1\frac{1}{6} = 2\frac{1}{4}$

(3)

13.**[3 marks]**

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

14.**[3 marks]**

Show that $7\frac{1}{2} - 4\frac{2}{3} = 2\frac{5}{6}$

15.**[3 marks]**

Show that $1\frac{1}{2} \div 1\frac{1}{4} = 1\frac{1}{5}$

16.**[3 marks]**

Find $\frac{1}{3} - \left(\frac{1}{3} \times \frac{1}{3}\right) + \left(\frac{1}{3} \div \frac{1}{3}\right)$

Show clear working out.

Show that $\left(3\frac{3}{4} - 2\frac{2}{3}\right) \times 1\frac{1}{2} = 1\frac{5}{8}$