Unit 4 · Fraction

HARDER PRACTICE QUESTIONS

Full marks 31

Write your answers on separate paper. Show your working, and give every answer in its lowest terms.

1 Spot the errors [4]

Aashma wrote:

$\frac{2}{3} + \frac{1}{4} = \frac{3}{7}$ and $\frac{3}{4} \div \frac{1}{2} = \frac{3}{8}$

i. What did she do wrong in each?

ii. Work each out correctly.

iii. Give a quick check that shows each of her answers can't be right.

2 Put them in order [3]

i. Write $\frac{5}{6}$, $\frac{7}{9}$, $\frac{3}{4}$ and $\frac{11}{12}$ in descending order.

ii. Which two of them are closest together? How far apart are they?

3 The fraction with a sum [3]

Find the fraction equivalent to $\frac{3}{5}$ whose numerator and denominator add up to 64.

4 In between [3]

i. Is there a fraction with denominator 12 between $\frac{1}{3}$ and $\frac{1}{2}$? Name it.

ii. Find three different fractions between $\frac{1}{3}$ and $\frac{1}{2}$.

iii. Can you always find another fraction between two different fractions? Explain.

5 A field in the Tarai [4]

In the Tarai, land is measured in bigha and kattha: 1 bigha = 20 kattha. A family in Dang has a field of $1\frac{1}{2}$ bigha. They plant paddy on $\frac{2}{3}$ of it, and lentils on $\frac{2}{5}$ of the rest. The rest is left for vegetables. (The field is made up for the problem.)

i. How many kattha is the whole field?

ii. How many kattha are paddy, and how many lentils?

iii. What fraction of a bigha is left for vegetables?

6 A rope cut twice [3]

A rope is $5\frac{1}{4}$ m long. Rishav cuts off $1\frac{2}{3}$ m, and then $2\frac{5}{6}$ m. How much rope is left?

7 How many fit? [4]

i. Sugar is packed in bags of $\frac{3}{8}$ kg. How many bags does $1\frac{1}{2}$ kg fill?

ii. A number divided by $\frac{2}{3}$ gives 9. What is the number?

iii. Without working them out, say which is bigger: $12 \div \frac{3}{4}$ or $12 \times \frac{3}{4}$. Then work both out.

8 Four digit cards [3]

Put the digit cards 1, 2, 3 and 4, each once, in the boxes: $\frac{\square}{\square} + \frac{\square}{\square}$

i. What is the biggest sum you can make?
ii. What is the smallest sum?
iii. Explain where the small digits go for the smallest sum.

9 Think: unit fractions [4]

A **unit fraction** has 1 as its numerator: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$ and so on. Write each fraction as the sum of two **different** unit fractions.

i. $\frac{3}{4}$
ii. $\frac{5}{6}$
iii. $\frac{7}{12}$, in two different ways
iv. $\frac{2}{5}$