



- 1 Write these fractions in order of size, starting with the smallest.

$$\frac{2}{3} \quad \frac{3}{4} \quad \frac{7}{12} \quad \frac{5}{6}$$

(2 marks)

Use a common denominator of 12

$$\frac{2}{3} = \frac{8}{12}, \quad \frac{3}{4} = \frac{9}{12}, \quad \frac{7}{12} = \frac{7}{12}, \quad \frac{5}{6} = \frac{10}{12}$$

In order: $\frac{7}{12}, \frac{2}{3}, \frac{3}{4}, \frac{5}{6}$

$$\boxed{\frac{7}{12}, \frac{2}{3}, \frac{3}{4}, \frac{5}{6}}$$

- 2 a. One of these fractions is **not** equivalent to $\frac{3}{5}$

$$\frac{6}{10} \quad \frac{9}{15} \quad \frac{12}{25} \quad \frac{15}{25}$$

Write down this fraction.

- b. Work out $\frac{2}{5} + \frac{1}{3}$

(3 marks)

a) $\frac{6}{10}, \frac{9}{15}$ and $\frac{15}{25}$ all simplify to $\frac{3}{5}$, but $\frac{12}{25}$ does not ($\frac{3}{5} = \frac{15}{25}$, not $\frac{12}{25}$)

b) Use denominator 15

$$\frac{2}{5} = \frac{6}{15} \quad \text{and} \quad \frac{1}{3} = \frac{5}{15}$$

$$\frac{6}{15} + \frac{5}{15} = \frac{11}{15}$$

3

a. Write $\frac{17}{5}$ as a mixed number.b. Write $4\frac{3}{8}$ as an improper fraction.

c. Write these numbers in order of size, starting with the smallest.

$$2\frac{1}{3} \quad \frac{11}{4} \quad 2\frac{5}{6} \quad \frac{5}{2}$$

(3 marks)

a)

$$17 \div 5 = 3 \text{ remainder } 2$$

$$3\frac{2}{5}$$

b)

$$4 \times 8 + 3 = 35$$

$$\frac{35}{8}$$

c)

Change them all to twelfths

$$2\frac{1}{3} = \frac{7}{3} = \frac{28}{12}$$

$$\frac{11}{4} = \frac{33}{12}$$

$$2\frac{5}{6} = \frac{17}{6} = \frac{34}{12}$$

$$\frac{5}{2} = \frac{30}{12}$$

$$2\frac{1}{3}, \frac{5}{2}, \frac{11}{4}, 2\frac{5}{6}$$

4

Work out $\frac{4}{9} \times \frac{3}{10}$

Give your answer as a fraction in its simplest form.

(2 marks)

Multiply the numerators and multiply the denominators

$$4 \times 3 = 12 \text{ and } 9 \times 10 = 90, \text{ so the product is } \frac{12}{90}$$

Divide top and bottom by 6

$$\frac{12}{90} = \frac{2}{15}$$

$$\frac{2}{15}$$

5

- a. Work out $\frac{3}{5}$ of 2 km. Give your answer in metres.
- b. Work out $\frac{5}{12}$ of an hour. Give your answer in minutes.
- c. Sana has a 2 kg bag of flour. She uses $\frac{3}{8}$ of the flour to bake bread. How many grams of flour are left in the bag?

(3 marks)

a)

$$2 \text{ km} = 2000 \text{ m}$$

$$2000 \div 5 = 400$$

$$400 \times 3 = 1200$$

$$1200 \text{ m}$$

b)

$$1 \text{ hour} = 60 \text{ minutes}$$

$$60 \div 12 = 5$$

$$5 \times 5 = 25$$

$$25 \text{ minutes}$$

c)

$$2 \text{ kg} = 2000 \text{ g}$$

$$2000 \div 8 = 250$$

$$\text{Used: } 250 \times 3 = 750 \text{ g}$$

$$\text{Left: } 2000 - 750 = 1250 \text{ g}$$

$$1250 \text{ g}$$

6

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

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

(3 marks)

Write as improper fractions

$$4\frac{2}{5} = \frac{22}{5} \text{ and } 1\frac{3}{4} = \frac{7}{4}$$

Use denominator 20

$$\frac{22}{5} = \frac{88}{20} \text{ and } \frac{7}{4} = \frac{35}{20}$$

$$\frac{88}{20} - \frac{35}{20} = \frac{53}{20} = 2\frac{13}{20}$$

$2\frac{13}{20}$

7

Work out each of these. Give each answer in its simplest form.

a. $12 \times \frac{3}{4}$

b. $\frac{5}{6} \times \frac{9}{10}$

c. $1\frac{3}{5} \times 3\frac{1}{3}$

(3 marks)

a)

$$12 \div 4 = 3$$

$$3 \times 3 = 9$$

$$\boxed{9}$$

b)

Cancel first: 5 with 10, 9 with 6

$$\frac{5}{6} \times \frac{9}{10} = \frac{1}{2} \times \frac{3}{2}$$

$$= \frac{3}{4}$$

$$\boxed{\frac{3}{4}}$$

c)

$$1\frac{3}{5} \times 3\frac{1}{3} = \frac{8}{5} \times \frac{10}{3}$$

Cancel 5 with 10

$$= \frac{8}{1} \times \frac{2}{3}$$

$$= \frac{16}{3}$$

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

8

a. Work out $5 \div \frac{1}{3}$

b. Work out $6 \div \frac{3}{4}$

c. A jug holds 4 litres of squash. Each cup holds $\frac{2}{5}$ of a litre. How many cups can be filled from the jug?

(3 marks)

a)

Flip the fraction and multiply

$$5 \div \frac{1}{3} = 5 \times \frac{3}{1}$$

$$= 15$$

$$\boxed{15}$$

b)

$$6 \div \frac{3}{4} = 6 \times \frac{4}{3}$$

$$= \frac{24}{3}$$

$$= 8$$

$$\boxed{8}$$

c)

$$4 \div \frac{2}{5} = 4 \times \frac{5}{2}$$

$$= \frac{20}{2}$$

$$= 10$$

$$\boxed{10 \text{ cups}}$$

9

Work out each of these. Give each answer in its simplest form.

a. $\frac{4}{5} \div 2$

b. $\frac{3}{7} \div 6$

c. $\frac{5}{8} \div \frac{15}{16}$

(3 marks)

a)

$$\frac{4}{5} \div 2 = \frac{4}{5} \times \frac{1}{2}$$

$$= \frac{4}{10}$$

$$\boxed{\frac{2}{5}}$$

b)

$$\frac{3}{7} \div 6 = \frac{3}{7} \times \frac{1}{6}$$

$$= \frac{3}{42}$$

$$\boxed{\frac{1}{14}}$$

c)

$$\frac{5}{8} \div \frac{15}{16} = \frac{5}{8} \times \frac{16}{15}$$

Cancel 5 with 15, 16 with 8

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

$$\boxed{\frac{2}{3}}$$

10

Work out $3\frac{1}{3} \div 2\frac{1}{2}$

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

(3 marks)

Write as improper fractions

$$3\frac{1}{3} = \frac{10}{3} \text{ and } 2\frac{1}{2} = \frac{5}{2}$$

To divide by $5/2$, multiply by its reciprocal $2/5$

$$(5/2) \times (2/5) = 1, \text{ so this undoes multiplication by } 5/2$$

Dividing by $\frac{5}{2}$ is the same as multiplying by $\frac{2}{5}$

$$\frac{10}{3} \times \frac{2}{5} = \frac{20}{15}$$

Simplify

$$\frac{20}{15} = \frac{4}{3} = 1\frac{1}{3}$$

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

11

Amir and Beth share a prize of £360.

Amir gets $\frac{2}{5}$ of the prize. Beth gets the rest.Beth gives $\frac{1}{4}$ of her share to charity.

Work out how much money Beth keeps.

(4 marks)

Amir's share

$$\frac{2}{5} \text{ of } £360 = £144$$

Beth's share

$$£360 - £144 = £216$$

$$\text{Beth gives away } \frac{1}{4} \text{ of } £216 = £54$$

$$\text{Beth keeps } £216 - £54 = £162$$

$$\boxed{£162}$$

12

Kofi gets his pocket money.

He spends $\frac{1}{4}$ of it on a computer game.

He spends $\frac{2}{5}$ of it on snacks.

He has £7 left.

How much pocket money did Kofi get?

(4 marks)

$$\frac{1}{4} + \frac{2}{5} = \frac{5}{20} + \frac{8}{20}$$
$$= \frac{13}{20} \text{ spent}$$

$$1 - \frac{13}{20} = \frac{7}{20} \text{ left}$$

$$\frac{7}{20} = £7$$

$$\frac{1}{20} = £1$$

$$\frac{20}{20} = £20$$

$$\boxed{£20}$$