

1 Simplifying fractions

- a) Write $\frac{2^4 \times 3^2 \times 5}{2^2 \times 3^3 \times 7}$ in its simplest form.
- b) $\frac{x}{y} = \frac{3}{5}$. Write $\frac{2x+y}{4y}$ in its simplest form.

a) $\frac{2^2 \times 5}{3 \times 7} = \frac{20}{21}$

b) $x = 3k, y = 5k: \frac{11k}{20k}$

b) $\frac{11}{20}$

2 Ordering fractions

- a) Write in order, smallest first. $\frac{13}{18}, \frac{19}{27}, 0.7, \frac{17}{24}$
- b) Find the fraction one third of the way from $\frac{3}{8}$ to $\frac{5}{6}$.



a) $0.7, \frac{19}{27}, \frac{17}{24}, \frac{13}{18}$

b) $\frac{3}{8} + \frac{1}{3} \times \frac{11}{24} = \frac{27}{72} + \frac{11}{72} = \frac{19}{36}$

3 Mixed numbers

- a) n is a whole number and $\frac{47}{n}$ is a mixed number between 5 and 6. Find both values of n .
- b) Write $4 + \frac{3}{x}$ as a single fraction.

a) $\frac{47}{6} < n < \frac{47}{5}: \frac{47}{8}, \frac{47}{9} = 5\frac{7}{8}, \frac{47}{9} = 5\frac{2}{9}$

a) 8 and 9 b) $\frac{4x+3}{x}$

4 Adding and subtracting fractions

- a) Work out $\frac{5}{6} - \frac{3}{8} + \frac{7}{20}$
- b) Find n . $\frac{1}{4} + \frac{1}{5} + \frac{1}{n} = \frac{1}{2}$

a) $\frac{100}{120} - \frac{45}{120} + \frac{42}{120}$

b) $\frac{1}{2} - \frac{9}{20} = \frac{1}{20}$

a) $\frac{97}{120}$ b) $n = 20$

Fractions

revision mat answers

5 Adding and subtracting mixed numbers

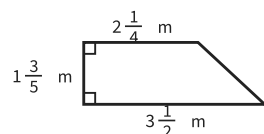
- a) Work out $4\frac{2}{9} - 1\frac{5}{6} + 2\frac{1}{4}$
- b) A rectangle has a perimeter of $15\frac{1}{6}$ m. One side is $3\frac{3}{4}$ m long. How long is the other side?

a) $\frac{152}{36} - \frac{66}{36} + \frac{81}{36} = 4\frac{23}{36}$

b) $7\frac{7}{12} - 3\frac{9}{12} = 3\frac{5}{6}$ m

6 Multiplying fractions

- a) Work out $(1\frac{2}{3})^2 \times 2\frac{7}{10}$
- b) Work out the area of this trapezium. It is not drawn to scale.



a) $7\frac{1}{2}$ b) $\frac{1}{2} \times \frac{23}{4} \times \frac{8}{5} = 4\frac{3}{5} \text{ m}^2$

7 Dividing fractions

- a) Work out $3\frac{3}{4} \div (1\frac{1}{2} - \frac{5}{6})$
- b) Write $\frac{2}{x} \div \frac{8}{x^2}$ as simply as you can.

a) $\frac{15}{4} \div \frac{2}{3} = \frac{15}{4} \times \frac{3}{2} = \frac{45}{8}$

b) $\frac{2}{x} \times \frac{x^2}{8}$

a) $5\frac{5}{8}$ b) $\frac{x}{4}$

8 Dividing fractions: problems

- a) A number is multiplied by $2\frac{2}{3}$. The answer is $4\frac{4}{9}$. What is the number?
- b) Sam spends $\frac{2}{5}$ of his money, then $\frac{1}{3}$ of what is left. He has £24 left. How much did he start with?

a) $\frac{40}{9} \times \frac{3}{8} = 1\frac{2}{3}$

b) $\frac{3}{5} \times \frac{2}{3} = \frac{2}{5}$ left, $24 \div \frac{2}{5} = \text{£}60$