Fractions Mat
Working towards Year 6

Calculate

Add and subtract fractions with denominators which are multiples, using the concept of equivalent fractions

$$\frac{1}{3} + \frac{5}{12} = \frac{4}{12} + \frac{5}{12} = \frac{9}{12}$$

$$\frac{4}{5} - \frac{3}{10} = \frac{8}{10} - \frac{3}{10} = \frac{5}{10}$$

Multiply simple pairs of proper fractions, writing the answer in its simplest form

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

Divide simple proper fractions by whole numbers

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

Compare and Order

Compare and order fractions

$$\frac{3}{8} > \frac{1}{4}$$

because $\frac{1}{4} = \frac{2}{8}$

Equivalence

Use common factors to simplify fractions

$$\frac{4}{10} = \frac{2}{5}$$

divide 4 and 10 by 2

Use common multiples to express simple fractions in the same denomination

Express $\frac{1}{2}$ and $\frac{1}{4}$ in fractions with the same denominator.

4 is a multiple of 2 and 4

$$\frac{1}{2} = \frac{2}{4} \text{ and } \frac{1}{4}$$

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Which is greater: 0.6l or $\frac{1}{2}$ of a litre?

$\frac{1}{2}$ of a litre = 0.5l, so 0.6l is greater.

Calculate

Identify the value of each digit in numbers given to two decimal places and multiply and divide numbers by 10 and 100 giving answers up to two decimal places

$$23 \div 100 = 0.23$$

0.23 has 2 tenths and 3 hundredths

Multiply one-digit numbers with up to one decimal place by whole numbers

$$0.6 \times 7 = 4.2$$

Use written division methods in cases where the answer has up to two decimal places

$$\begin{array}{r} 1\,9\,.\,5 \\ 2\,\overline{)\,3\,{}^{1}9\,.\,{}^{1}0} \end{array}$$

Solve Problems

Solve problems which require answers to be rounded to specific degrees of accuracy

Round £2.85 to the nearest 10p

Rounds to £2.90

Fractions Mat
Expected Year 6

Calculate

Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

$$\frac{1}{3} + \frac{3}{8} = \frac{8}{24} + \frac{9}{24} = \frac{17}{24}$$

$$\frac{4}{5} - \frac{3}{4} = \frac{16}{20} - \frac{15}{20} = \frac{1}{20}$$

Multiply simple pairs of proper fractions, writing the answer in its simplest form

$$\frac{1}{3} \times \frac{1}{4} = \frac{1}{12}$$

Divide proper fractions by whole numbers

$$\frac{2}{3} \div 5 = \frac{2}{15}$$

Compare and Order

Compare and order fractions, including fractions > 1

$$\frac{11}{8} > \frac{5}{4}$$

Equivalence

Use common factors to simplify fractions

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

divide 15 and 24 by 3

Use common multiples to express fractions in the same denomination

Express $\frac{2}{5}$ and $\frac{3}{4}$ in fractions with the same denominator

20 is a multiple of 5 and 4

$$\frac{2}{5} = \frac{8}{20} \text{ and } \frac{3}{4} = \frac{15}{20}$$

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Which is greater: 0.75l or $\frac{4}{5}$ of a litre?

$\frac{4}{5}$ of a litre = 0.8l, so is greater

Calculate

Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places

23 ÷ 1000 = 0.023

0.23 has 2 tenths and 3 hundredths

Multiply one-digit numbers with up to two decimal places by whole numbers

0.06 × 7 = 0.42

Use written division methods in cases where the answer has up to two decimal places

$$4 \overline{) 2\ 3^3 7\ .\ ^1 0^2 0} \quad = 5\ 9\ .\ 2\ 5$$

Solve Problems

Solve problems which require answers to be rounded to specific degrees of accuracy

Round half of £2.99 to the nearest 1p

Half of £2.99 = £1.495 = 149.5p, so rounds to 150p = £1.50

Fractions Mat
Greater Depth Year 6

Calculate

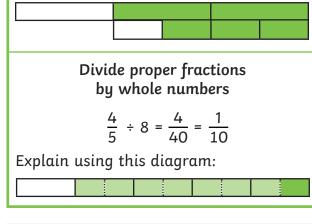**Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions**

Calculate mentally:

$$\frac{1}{3} + \frac{3}{8} = \frac{17}{24} \quad \text{and} \quad \frac{4}{5} - \frac{3}{4} = \frac{1}{20}$$

Multiply simple pairs of proper fractions, writing the answer in its simplest form

$$\frac{2}{3} \times \frac{3}{4} = \frac{6}{12} = \frac{1}{2}$$

Explain using this diagram:

Divide proper fractions by whole numbers

$$\frac{4}{5} \div 8 = \frac{4}{40} = \frac{1}{10}$$

Explain using this diagram:

Solve Problems

Solve problems which require answers to be rounded to specific degrees of accuracy

Round $\frac{3}{4}$ of £45.33 to the nearest 1p

$\frac{3}{4}$ of = £45.33 = £33.9975 = 3399.75p
so rounds to 3400p = £34

Equivalence

Use common factors to simplify fractions

$$\frac{15}{40} = \frac{3}{8}$$

divide 15 and 40 by 5

Use common multiples to express fractions in the same denomination

Express $\frac{3}{10}$ and $\frac{5}{12}$ in fractions with the same denominator

60 is a multiple of 10 and 60

$$\frac{3}{10} = \frac{18}{60} \quad \text{and} \quad \frac{5}{12} = \frac{25}{60}$$

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Which is greater: 0.7l or $\frac{2}{3}$ of a litre?

$\frac{2}{3}$ of a litre = 0.66l, so 0.7l is greater

Calculate

Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places

$$1863 \div 1000 = 1.863$$

1.863 has 1 one, 8 tenths, 6 hundredths and 3 thousandths

Multiply one-digit numbers with up to two decimal places by whole numbers

$$0.06 \times 17 = 1.02$$

Use written division methods in cases where the answer has up to two decimal places

$$80.25$$
$$8\overline{)642.^2 0^4 0}$$

Compare and Order

Compare and order fractions, including fractions > 1

Order the following fractions:

$$\frac{8}{5} \quad 1\frac{5}{8} \quad \frac{17}{20} \quad 1\frac{7}{12}$$