



Year 5

Addition

**Compact column addition**

Compact column addition to add pairs of 5-digit numbers, towers of several larger numbers and decimal numbers with up to 2 decimal places.

|   | O | Tth | Hth |
|---|---|-----|-----|
|   | 0 | 5   | 7   |
| + | 0 | 4   | 3   |
|   | 1 | 0   | 0   |
|   | 1 | 1   |     |

**Fractions**

Add related fractions.

|            |               |   |               |   |               |
|------------|---------------|---|---------------|---|---------------|
|            | $\frac{3}{4}$ | + | $\frac{1}{8}$ | = |               |
| $\times 2$ | $\frac{6}{8}$ | + | $\frac{1}{8}$ | = | $\frac{7}{8}$ |

Subtraction

**Compact column subtraction**

Compact column subtraction for numbers with up to 5 digits.

|   | O            | Tth          | Hth          | Tth           |
|---|--------------|--------------|--------------|---------------|
|   | <del>1</del> | <del>2</del> | <del>9</del> | <del>10</del> |
| - | 0            | 2            | 9            | 6             |
|   | 1            | 7            | 0            | 4             |

**Fractions**

Subtract related fractions.

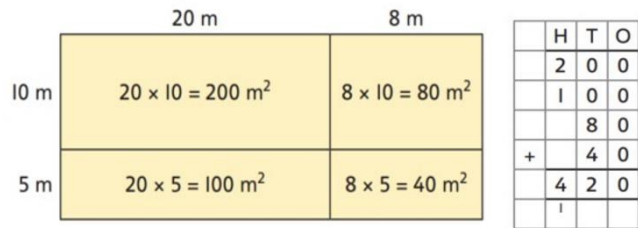
|            |               |   |               |   |               |
|------------|---------------|---|---------------|---|---------------|
|            | $\frac{3}{4}$ | - | $\frac{1}{8}$ | = |               |
| $\times 2$ | $\frac{6}{8}$ | - | $\frac{1}{8}$ | = | $\frac{5}{8}$ |



Multiplication

**Area model**

Use an area model and then add the parts.



**Column multiplication**

Column multiplication of 2-, 3- and 4-digit numbers by 1- and 2-digit numbers (tens digits written small for carrying).

|   |   |   |                               |
|---|---|---|-------------------------------|
|   | H | T | O                             |
|   | 4 | 3 | 5                             |
| x |   |   | 8                             |
|   | 3 | 4 | <sup>2</sup> 8 <sup>4</sup> 0 |
|   |   |   |                               |

|  |   |   |   |                |
|--|---|---|---|----------------|
|  |   | H | T | O              |
|  |   |   | 4 | 8              |
|  |   | x | 1 | 6              |
|  |   |   | 2 | 8 <sup>8</sup> |
|  | + |   | 4 | 8              |
|  |   |   | 7 | 6              |
|  |   |   | 1 |                |

**Fractions**

Multiply fractions by 1-digit numbers.

|               |   |   |   |                |
|---------------|---|---|---|----------------|
| $\frac{3}{4}$ | x | 6 | = | $\frac{18}{4}$ |
|---------------|---|---|---|----------------|



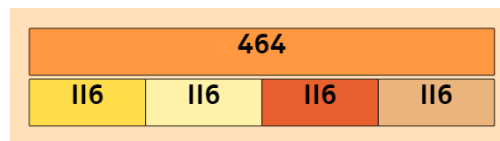
**Short division**

Short division of 3- and 4-digit numbers by 1-digit numbers, giving remainders as whole numbers or as fractions.

|   |   |   |                |               |
|---|---|---|----------------|---------------|
|   |   |   |                |               |
|   | 1 | 2 | 8              | $\frac{1}{3}$ |
| 3 | 3 | 8 | <sup>2</sup> 5 |               |
|   |   |   |                |               |

**Fractions**

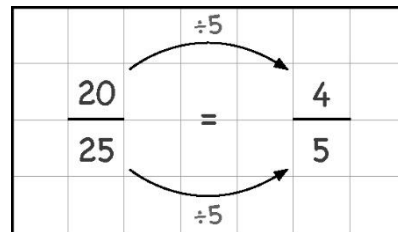
Use bar modelling and written methods of division and multiplication to find unit and non-unit fractions of large amounts.



$\frac{1}{4}$  of 464 = 116

$\frac{3}{4}$  of 464 = 348

Find equivalent fractions and simplify fractions to their simplest form.



Turn improper fractions into mixed numbers and vice versa.

|               |   |   |               |
|---------------|---|---|---------------|
| $\frac{7}{3}$ | = | 2 | $\frac{1}{3}$ |
|---------------|---|---|---------------|