

## CALCULATIONS

### Pupils should be taught to:

Consolidate and extend mental methods of calculation, accompanied where appropriate by suitable jottings (continued)

### As outcomes, Year 7 pupils should, for example:

#### Strategies for multiplication and division

Use factors. For example:

- $3.2 \times 30$        $3.2 \times 10 = 32$   
                          $32 \times 3 = 96$
- $156 \div 6$        $156 \div 3 = 52$   
                          $52 \div 2 = 26$

Use partitioning. For example:

For multiplication, partition either part of the product:

- $7.3 \times 11$        $= (7.3 \times 10) + 7.3$   
                          $= 73 + 7.3$   
                          $= 80.3$

For division, partition the dividend (the number that is to be divided by another):

- $430 \div 13$        $400 \div 13 = 30 \text{ R } 10$   
                          $30 \div 13 = 2 \text{ R } 4$   
                          $430 \div 13 = 32 \text{ R } 14$   
                          $= 33 \text{ R } 1$

Recognise special cases where doubling or halving can be used. For example:

To multiply by 50, first multiply by 100 and then divide by 2.

For example:

- $1.38 \times 50$        $1.38 \times 100 = 138$   
                          $138 \div 2 = 69$

Double one number and halve the other. For example:

- $6 \times 4.5$        $3 \times 9 = 27$   
    $12 \times 7.5$        $6 \times 15 = 3 \times 30 = 90$

Use the relationship between multiplication and division.

For example, knowing one of these facts means you also know the other three:

$$\begin{array}{ll} 2.4 \times 3 = 7.2 & 3 \times 2.4 = 7.2 \\ 7.2 \div 3 = 2.4 & 7.2 \div 2.4 = 3 \end{array}$$

See Y456 examples (pages 60–5).