## Multiplication/Division by Multiples of 10, 100 and 1000

**Be able to multiply and divide by 30, 200, 4000 etc.**

To multiply by 30, 200 or 4000, use two steps :-

**Step 1** => multiply by the 10, 100 or 1000 first

**Step 2** => then multiply by the 3, 2, 4 etc.

**Examples :-**

To multiply **382 × 30**

**Step 1** Find 382 × 10 = 3820

**Step 2** Find 3820 × 3 ...

$$\begin{array}{r} 3820 \\ \times\ 3 \\ \hline 11\,460 \end{array}$$

To multiply **218 × 400**

**Step 1** Find 218 × 100 = 21 800

**Step 2** Find 21 800 × 4 ...

$$\begin{array}{r} 21\,800 \\ \times\ 4 \\ \hline 87\,200 \end{array}$$

### Exercise 2

1. Try to do the following **mentally** :- *(use the 2-step approach)*

   a  17 × 20          b  42 × 30          c  19 × 60

   d  33 × 50          e  40 × 223         f  70 × 204

   g  61 × 200         h  400 × 34         i  115 × 600

   j  800 × 212        k  2000 × 24        l  130 × 9000.

2. Calculate each of the following *(not necessarily mentally)* :-

   a  436 × 30          [Find 436 × 10 first = 4360 and then find 4360 × 3]

   b  617 × 40          c  209 × 50          d  3218 × 60

   e  70 × 980          f  1231 × 80         g  6507 × 90

   h  2184 × 30         i  90 × 3046         j  12 345 × 20.

3. Work out each of the following using the same 2 steps :-

   a  108 × 400          [Find 304 × 100 first = 30 400 and then find 30 400 × 3]

   b  352 × 300          c  456 × 500          d  179 × 700

   e  758 × 200          f  600 × 305          g  975 × 300

   h  407 × 800          i  900 × 821          j  2000 × 732

   k  706 × 6000         l  452 × 4000         m  734 × 3000

   n  8000 × 119         o  7000 × 2043        p  9000 × 5320.

There is a quick way of doing the following multiplications **mentally** :-

*Example* :-   40 000 x 8000

=>   simply find 4 x 8 (= 32) and then  add on **7** zeros   =>   32**0 000 000**

4.   Do the following **mentally** :-

| | | | | | |
|---|---|---|---|---|---|
| a | 60 x 20 | b | 80 x 90 | c | 700 x 40 |
| d | 500 x 90 | e | 50 x 7000 | f | 80 x 600 |
| g | 200 x 900 | h | 500 x 900 | i | 3000 x 700 |
| j | 600 x 9000 | k | 4000 x 7000 | l | 6000 x 8000. |