Multiplication of Decimals

We multiply decimals in a similar way as we multiply whole numbers.

- We multiply the numbers ignoring the decimal point.
- The decimal is put in the product from the right after as many digits as the total number of decimal places in the multiplicand.

Let us understand with an example:

Example: Find the product of 1.25 × 34.

Solution: Multiply the numbers as whole numbers ignoring the decimal point.

Put the decimal point in the product from the right, after as many digits as the total number of decimal places in the multiplicand. In this case it is after 2 digits.

∴ 1.25 × 34 = 42.50

		1	.	2	5	
		×		3	4	
		5		0	0	→ 125 × 4
+	3	7		5	0	→ 125 × 30
	4	**2**	**.**	**5**	**0**	

Multiplication of a Decimal by 10, 100 and 1, 000

By 10

On multiplying a decimal number by 10, the decimal point moves one place to the right of the decimal number.

Example: a. 5.49 × 10 = 54. 9 b. 8.9 × 10 = 89.0 c. 0.05 × 10 = 0.5

By 100

On multiplying a decimal number by 100, the decimal point moves two places to the right of the decimal number.

Example: a. 5.81 × 100 = 581 b. 7.6 × 100 = 760 c. 0.09 × 100 = 9

By 1,000

On multiplying a decimal number by 1, 000 the decimal point moves three places to the right of the decimal number.

Example: a. 6.59 × 1000 = 6,590 b. 4.3 × 1000 = 4,300 c. 5.168 × 1000 = 5, 168

Multiplication of a Decimal by another Decimal Example:

Example: Multiply 6.25 by 2.5.

Solution: Multiply as you multiply whole numbers, ignoring the decimal point.

- Count the number of decimal places in the multiplicand and the multiplier and add the number of decimal places.
- Put the decimal point in the product from the right, after as many digits as the total number of decimal places. In this case it is after 3 digits.

∴ 6.25 × 2.5 = 1 5. 6 2 5

		6.	2	5	
		×	2.	5	
	3	1	2	5	→ 625 × 5
1	2	5	0	0	→ 625 × 20
1	**5.**	**6**	**2**	**5**	