

Multiplying Decimals

When multiplying decimals, there are a couple of different methods you can use. They both work by carrying out an integer multiplication, then scaling the answer.

Using scaled calculations

 **Example** Work out 0.08×0.3

$$\begin{array}{ccc} 0.08 \times 0.3 & & \\ \times 100 \swarrow & \searrow \times 10 & \searrow \times 10 \\ 8 \times 3 = 24 & & \end{array}$$

1 Multiply by powers of 10 to change to an integer calculation and work out the answer.

$$24 \div 100 \div 10 = 24 \div 1000$$
$$= 0.024$$

2 Reverse the scaling using division by powers of 10

Counting decimal places

 **Example** Work out 0.002×3.1

3 decimal places 0.002×3.1 1 decimal place

4 decimal places in total in the question.

1 Multiply the non-zero digits: $2 \times 31 = 62$

2 Match the number of decimal places.

So we have the digits **62** with 4 decimal places: **0.0062**