

## Level 3 Maths Revision - Decimals

### A: Multiplying by 10, 100, 1000

Reminder

Look at these examples:-

**a)**  $12.3 \times 10 = 123$

**b)**  $1.23 \times 10 = 12.3$

**c)**  $0.123 \times 10 = 1.23$

**d)**  $87.6 \times 100 = 8\,760$

**e)**  $0.876 \times 100 = 87.6$

**f)**  $0.087 \times 100 = 8.7$

**g)**  $45.9 \times 1\,000 = 45\,900$

**h)**  $4.59 \times 1\,000 = 4\,590$

**i)**  $0.459 \times 1\,000 = 459$

Notice how: -

- Multiplying by 10 makes the number bigger by moving all the digits along one place. (Examples **a** – **c**)
- Multiplying by 100 makes the number bigger by moving all the digits along two places. (Examples **d** – **f**)
- Multiplying by 1000 makes the number bigger by moving all the digits along three places. (Examples **g** – **i**)

Now try these examples – no working is necessary, just write down the answer.

**1)**  $45.6 \times 10$

**2)**  $89.3 \times 100$

**3)**  $67.8 \times 1\,000$

**4)**  $1.23 \times 10$

**5)**  $9.67 \times 100$

**6)**  $3.78 \times 1\,000$

**7)**  $0.789 \times 10$

**8)**  $0.167 \times 100$

**9)**  $0.738 \times 1\,000$

**10)**  $0.067 \times 10$

**11)**  $0.037 \times 100$

**12)**  $0.072 \times 1\,000$

### B: Dividing by 10, 100, 100

Reminder

Look at these examples:-

**a)**  $456 \div 10 = 45.6$

**b)**  $45.6 \div 10 = 4.56$

**c)**  $4.56 \div 10 = 0.456$

**d)**  $193 \div 100 = 1.93$

**e)**  $19.3 \div 100 = 0.193$

**f)**  $1.93 \div 100 = 0.0193$

**g)**  $45.9 \div 1\,000 = 45\,900$

**h)**  $4.59 \div 1\,000 = 4\,590$

**i)**  $0.459 \div 1\,000 = 459$

Notice how: -

- Dividing by 10 makes the number smaller by moving all the digits along one place.

- Dividing by 100 makes the number smaller by moving all the digits along two places.
- Dividing by 1000 makes the number smaller by moving all the digits along three places.

Now try these examples – now working required, just write down your answer.

13)  $987 \div 10$

14)  $196 \div 100$

15)  $752 \div 1\ 000$

16)  $12.34 \div 10$

17)  $58.19 \div 100$

18)  $71.75 \div 1\ 000$

19)  $1.45 \div 10$

20)  $4.97 \div 100$

21)  $3.79 \div 1\ 000$

22)  $0.483 \div 10$

23)  $4\ 896 \div 100$

24)  $8\ 371 \div 1\ 000$

### C: Multiplying and Dividing

Complete these calculations by inserting  $\times 10$ ,  $\div 10$ ,  $\times 100$  etc.

25)  $735 \underline{\hspace{1cm}} = 7.35$

26)  $913 \underline{\hspace{1cm}} = 0.913$

27)  $258 \underline{\hspace{1cm}} = 25.8$

28)  $45.6 \underline{\hspace{1cm}} = 456$

29)  $72.1 \underline{\hspace{1cm}} = 7.21$

30)  $87.7 \underline{\hspace{1cm}} = 0.877$

31)  $8.45 \underline{\hspace{1cm}} = 8\ 450$

32)  $2.31 \underline{\hspace{1cm}} = 0.00231$

33)  $6.98 \underline{\hspace{1cm}} = 698$

34)  $0.936 \underline{\hspace{1cm}} = 936$

35)  $0.668 \underline{\hspace{1cm}} = 6.68$

36)  $0.741 \underline{\hspace{1cm}} = 0.0741$

### D: Rounding

Reminder

When we round a number to one decimal place we are rounding it so there is only one digit after the decimal point

For example: -

7.71456 rounds down to 7.7 because the first digit we are going to get rid of (underlined) is less than 5.

13.796541 rounds up to 13.8 because the first digit we are going to get rid of (underlined) is 5 or more.

0.85556 rounds up to 0.9 because the first digit we are going to get rid of (underlined) is 5 or more.

When we round a number to two decimal place we are rounding it so there are two digits after the decimal point

For example: -

7.71456 rounds down to 7.71 because the first digit we are going to get rid of (underlined) is less than 5.

13.796541 rounds up to 13.80 because the first digit we are going to get rid of (underlined) is 5 or more.

0.85556 rounds up to 0.86 because the first digit we are going to get rid of (underlined) is 5 or more.

Now round these numbers as required: -

- |  |  |  |
|--|--|--|
| <b>37)</b> 0.914456 to one decimal place   | <b>38)</b> 45.6789 to one decimal place    | <b>39)</b> 4.55555 to one decimal place    |
| <b>40)</b> 4.99999 to one decimal place    | <b>41)</b> 2.36987 to two decimal places   | <b>42)</b> 179.3697 to two decimal places  |
| <b>43)</b> 0.35555 to two decimal places   | <b>44)</b> 4.99999 to two decimal places   | <b>45)</b> 0.12345 to three decimal places |
| <b>46)</b> 7.78976 to three decimal places | <b>47)</b> 2.55555 to three decimal places | <b>48)</b> 4.99999 to three decimal places |