## Maths Mastery Multiply and Divide by 10, 100 and 1000

## Multiply by 10

Correct the calculations that are incorrect:

| $34 \times 10=340$ | correct |
| :--- | :---: |
| $0.6 \times 10=60$ | incorrect $=6$ |
| $5.7 \times 10=57$ | correct |
| $0.003 \times 10=0.3$ | incorrect $=0.03$ |
| $8900 \times 10=890$ | incorrect $=89000$ |
| $902 \times 10=9200$ | incorrect $=9020$ |
| $8.03 \times 10=80.3$ | correct |

## Multiply by 10

Correct the calculations that are incorrect:

$$
\begin{array}{l|c}
\hline 212 \times 10=2120 & \text { correct } \\
\hline 0.05 \times 10=5 & \text { incorrect }=0.5 \\
\hline 34.91 \times 10=349.1 & \text { correct } \\
\hline 50.3 \times 10=503 & \text { correct } \\
\hline 0.52 \times 10=52 & \text { incorrect }=5.2 \\
\hline 9.09 \times 10=99 & \text { incorrect }=90.9 \\
\hline 71000 \times 10=710000 & \text { correct }
\end{array}
$$

## Divide by 10

$$
0.3 \div 10=0.03
$$

Suggested Answers.
Example 1: Jez has 0.3 litres of milk. He shares the milk equally into 10 cups. How much milk is in each cup?
Example 2: Jez has $\$ 0.30$. He divides the money into 10 equal amounts. How much is each amount?

Dividing by 10 will make a number smaller. Practically, this means moving the digits one place value to the right. In this case 0.3 becomes .03 , and by convention, we write a 0 in front of the decimal place to become 0.03.

## Multiply by 100



In which of these problems will the answer be found by multiplying by 100. Calculate the answers.
1.100 children are each given $\$ 1.20$. How much money is given out altogether?
Yes, \$120
2. At a school disco, there are 34 litres of lemonade. The 100 children at the disco are each given an equal share. How much lemonade does each child receive?

$$
\text { No, } 34 \div 100=0.34 l
$$

3. Some children lay 100 pencils in a long line. Each pencil is 0.14 m long. What is the length of the line of pencils?

$$
\text { Yes, } 14 \mathrm{~m}
$$

## Divide by 100

Correct the calculations that are incorrect:

$$
\begin{array}{l|c}
6 \div 100=0.06 & \text { correct } \\
34 \div 100=0.034 & \text { incorrect }=0.34 \\
5.7 \div 100=0.057 & \text { correct } \\
0.3 \div 100=0.03 & \text { incorrect }=0.003 \\
8900 \div 100=89 & \text { correct } \\
902 \div 100=0.92 & \text { incorrect }=9.02 \\
\hline 8.03 \div 100=0.083 & \text { incorrect }=0.0803
\end{array}
$$

## Divide by 100

Correct the calculations that are incorrect:

| $212 \div 100=2.12$ | correct |
| :--- | :---: |
| $500 \div 100=5$ | correct |
| $34.91 \div 100=0.349$ | incorrect $=0.3491$ |
| $50.3 \div 100=0.5003$ | incorrect $=0.503$ |
| $520 \div 100=5.2$ | correct |
| $9.09 \div 100=0.099$ | incorrect $=0.0909$ |
| $71000 \div 100=71$ | incorrect $=710$ |

## Multiply by 1000

$$
0.04 \times 1000=40
$$

## Suggested Answers.

Ella saves the $\$ 0.04$ change she gets from her bus fair each day. How much will she have saved after 1000 days?
A packet of nuts weights 0.04 kg . How much will 1000 packets weigh?
Multiplying by 1000 will make a number larger. Practically, this means moving the digits three place values to the left. In this case 0.04 becomes 40 . The three steps are

$$
0.4,4,40 .
$$

## Divide by 1000

In which of these problems will the answer be found by dividing by 1000. Calculate the answers.
1.1000 people attend a football match. All tickets are the same price. The total received is \$12 500. How much is each ticket?

Yes, \$12.50
2. A swimming pool attendant fills a swimming pool with 1000 equal buckets of water. There are 4520 litres in the pool. How much water is in each bucket?

Yes 4.52l
3. A baker makes 1000 pies in a week. Each pie is sold for $\$ 1.45$. All the pies are sold. How much does the baker take for all the pies?

$$
\text { No } \$ 1.45 \times 1000=\$ 1450
$$

