

# Maths Mastery

## Multiply and Divide by 10, 100 and 1000

### Challenge Cards



Maths Mastery Challenge Cards

### Multiply by 10

1. Correct the calculations that are incorrect:

$$34 \times 10 = 340$$

$$0.6 \times 10 = 60$$

$$5.7 \times 10 = 57$$

$$0.003 \times \times 10 = 0.3$$

$$8900 \times 10 = 890$$

$$902 \times 10 = 9200$$

$$8.03 \times 10 = 80.3$$



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### Multiply by 10

2. Correct the calculations that are incorrect:

$$212 \times 10 = 2120$$

$$0.05 \times 10 = 5$$

$$34.91 \times 10 = 349.1$$

$$50.3 \times 10 = 503$$

$$0.52 \times 10 = 52$$

$$9.09 \times 10 = 99$$

$$71\ 000 \times 10 = 710\ 000$$



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### Divide by 10

3. Here is a calculation:

$$0.3 \div 10 =$$

Calculate the answer.

Give two different real life examples where this calculation would be used to give the answer.

Explain how to calculate the answer.



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## Multiply by 100

4. In which of these problems will the answer be found by multiplying by 100. Calculate the answers.

- 100 children are each given £1.20. How much money is given out altogether?
- 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?
- Some children lay 100 pencils in a long line. Each pencil is 0.14m long. What is the length of the line of pencils?

## Divide by 100

5. Correct the calculations that are incorrect:

$$6 \div 100 = 0.06$$

$$34 \div 100 = 0.034$$

$$5.7 \div 100 = 0.057$$

$$0.3 \div 100 = 0.03$$

$$8900 \div 100 = 89$$

$$902 \div 100 = 0.92$$

$$8.03 \div 100 = 0.083$$



## Divide by 100

6. Correct the calculations that are incorrect:

$$212 \div 100 = 2.12$$

$$500 \div 100 = 5$$

$$34.91 \div 100 = 0.349$$

$$50.3 \div 100 = 0.5003$$

$$520 \div 100 = 5.2$$

$$9.09 \div 100 = 0.099$$

$$71\ 000 \div 100 = 71$$



## Multiply by 1000

7. Here is a calculation:

$$0.04 \times 1000 =$$

Calculate the answer.

Give two different real life examples where this calculation would be used to give the answer.

Explain how to calculate the answer.



**Divide by 1000**

8. In which of these problems will the answer be found by dividing by 1000. Calculate the answers.

a. 1000 people attend a football match. All tickets are the same price. The total received is £12 500. How much is each ticket?

b. A swimming pool attendant fills a swimming pool with 1000 equal buckets of water. There is 4520 litres in the pool. How much water is in each bucket?

c. 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?

1. Correct the calculations that are incorrect:

$$34 \times 10 = 340 \text{ correct}$$

$$0.6 \times 10 = 60 \text{ incorrect} = 6$$

$$5.7 \times 10 = 57 \text{ correct}$$

$$0.003 \times 10 = 0.3 \text{ incorrect} = 0.03$$

$$8900 \times 10 = 890 \text{ incorrect} = 89\ 000$$

$$902 \times 10 = 9200 \text{ incorrect} = 9020$$

$$8.03 \times 10 = 80.3 \text{ correct}$$

2. Correct the calculations that are incorrect:

$$212 \times 10 = 2120 \text{ correct}$$

$$0.05 \times 10 = 5 \text{ incorrect} = 0.5$$

$$34.91 \times 10 = 349.1 \text{ correct}$$

$$50.3 \times 10 = 503 \text{ correct}$$

$$0.52 \times 10 = 52 \text{ incorrect} = 5.2$$

$$9.09 \times 10 = 99 \text{ incorrect} = 90.9$$

$$71\ 000 \times 10 = 710\ 000 \text{ correct}$$

3. Here is a calculation:  $0.3 \div 10 = 0.03$

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.**

4. In which of these problems will the answer be found by multiplying by 100. Calculate the answers.

- a. **Yes, £120**  
 b. **No,  $34 \div 100 = 0.34$**   
 c. **Yes, 14m**

5. Correct the calculations that are incorrect:

- $6 \div 100 = 0.06$  **correct**  
 $34 \div 100 = 0.034$  **incorrect = 0.34**  
 $5.7 \div 100 = 0.057$  **correct**  
 $0.3 \div 100 = 0.03$  **incorrect = 0.003**  
 $8900 \div 100 = 89$  **correct**  
 $902 \div 100 = 0.92$  **incorrect = 9.02**  
 $8.03 \div 100 = 0.083$  **incorrect = 0.0803**

6. 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**  
 $71\ 000 \div 100 = 71$  **incorrect = 710**

7. Here is a calculation:  **$0.04 \times 1000 = 40$**

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.**

8. In which of these problems will the answer be found by dividing by 1000. Calculate the answers.

a. **Yes, £12.50**

b. **Yes 4.52l**

c. **No  $£1.45 \times 1000 = £1450$**