

# Mathematics

## Multiplying & Dividing by 10, 100 and 1000

### Practice Questions

Multiply these numbers by 10, 100 and 1000

a) 0.23   b) 5.6   c) 98   d) 321   e) 8766

Divide these numbers by 10, 100 and 1000

a) 0.77   b) 8.5   c) 45   d) 766   e) 9263

Ranjeet sells toy cars in boxes of 100 for £80 per box. How much does each toy car cost?



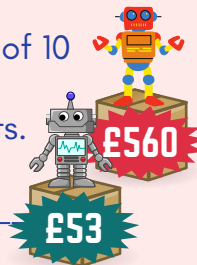
Cupcakes are 3p each and Sienna needs 1000 for her party. How much will she need to pay?



Rick sells robots in boxes of 100 for £560 per box.

Rachel's sells robots in boxes of 10 for £53 per box.

Harris wants to buy 500 robots. Who has the best deal?



Constantine says that  $34,800$  divided by  $1000$  is  $33,800$ . He is incorrect. Explain why.

??



### What do I do?



Answer the questions carefully. Some questions may require more than one step.

### Top Tips!



When we multiply by 10, 100 and 1000, the digits move to the **LEFT**. One space for  $\times 10$ , two spaces for  $\times 100$  and three spaces for  $\times 1000$ .

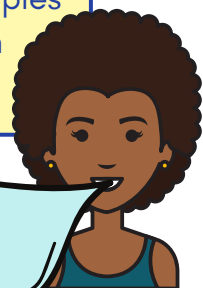
When we divide by 10, 100 and 1000, the digits move to the **RIGHT**. One space for  $\div 10$ , two spaces for  $\div 100$  and three spaces for  $\div 1000$ .

### What skills do I need to improve?



**Doing lots of practice questions will help with becoming familiar with question types but what else can you do to improve in this area?**

- Ensure that you are confident with place value and what each digit represents
- Try to read and write decimal values aloud and look for 'real-life' examples of these such as at the shops - on price labels and receipts



How many spaces would the digits move if we multiplied or divided by 10,000? How about 100,000 or even 1 million?

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## Multiplying & Dividing by 10, 100 and 1000

### Answers

#### Multiply these numbers by 10, 100 and 1000

- a)  $0.23 \times 10 = \mathbf{2.3}$     $0.23 \times 100 = \mathbf{23}$     $0.23 \times 1000 = \mathbf{230}$   
 b)  $5.6 \times 10 = \mathbf{56}$     $5.6 \times 100 = \mathbf{560}$     $5.6 \times 1000 = \mathbf{5,600}$   
 c)  $98 \times 10 = \mathbf{980}$     $98 \times 100 = \mathbf{9,800}$     $98 \times 1000 = \mathbf{98,000}$   
 d)  $321 \times 10 = \mathbf{3,210}$     $321 \times 100 = \mathbf{32,100}$     $321 \times 1000 = \mathbf{321,000}$   
 e)  $8766 \times 10 = \mathbf{87,660}$     $8766 \times 100 = \mathbf{876,600}$     $8766 \times 1000 = \mathbf{8,766,000}$

#### Divide these numbers by 10, 100 and 1000

- a)  $0.77 \div 10 = \mathbf{0.077}$     $0.77 \div 100 = \mathbf{0.0077}$     $0.77 \div 1000 = \mathbf{0.00077}$   
 b)  $8.5 \div 10 = \mathbf{0.85}$     $8.5 \div 100 = \mathbf{0.085}$     $8.5 \div 1000 = \mathbf{0.0085}$   
 c)  $45 \div 10 = \mathbf{4.5}$     $45 \div 100 = \mathbf{0.45}$     $45 \div 1000 = \mathbf{0.045}$   
 d)  $766 \div 10 = \mathbf{76.6}$     $766 \div 100 = \mathbf{7.66}$     $766 \div 1000 = \mathbf{0.766}$   
 e)  $9263 \div 10 = \mathbf{926.3}$     $9263 \div 100 = \mathbf{92.63}$     $9263 \div 1000 = \mathbf{9.263}$

Ranjit's cars cost 80p each.  $80.00 \div 100 = 0.80$

Sienna will need to pay £30 for her cupcakes.  $0.03 \times 1000 = 30$

Rick's robots are £5.60 each ( $560 \div 100 = 5.6$ )

Rachel's robots are £5.30 each ( $53 \div 10 = 5.3$ )

**Rachel's are the best deal** and Harris would pay £2,650 for 500 robots. He would have to pay £2,800 if he bought them from Rick.

Constantine is incorrect because he has **subtracted 1000**, instead of dividing by 1000.



**Four** spaces = 10,000  
**Five** spaces = 100,000  
**Six** spaces = 1,000,000 (1 million)