

# Discussion Problems

## Step 2: Multiply by 10, 100 and 1,000

### National Curriculum Objectives:

Mathematics Year 6: (6F9a) [Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to three decimal places](#)

### About this resource:

This resource has been designed for pupils who understand the concepts within [this step](#). It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More [Year 6 Decimals](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

# Multiply by 10, 100 and 1,000

1. Dr. Zordon has created 3 robots with different functions. He has given each robot two different number cards.

3.753

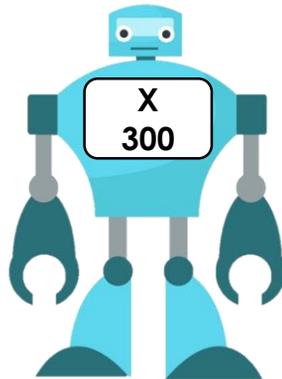
1.921

3.339

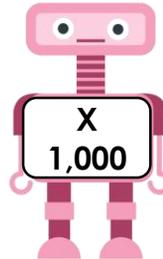
7.2

6.01

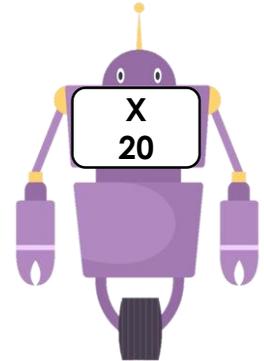
5.503



Robot 1



Robot 2



Robot 3

Investigate the different combinations of numbers Dr. Zordon could have given to each robot. What new numbers could the robots have created?

DP

2. Gio the Genie is thankful to have been released from his lamp and has agreed to grant you 3 wishes!

However, in order for him to do so, a riddle must first be solved.

He says,

I start with the number 1.293 and cast a spell from below. I then take the new number and cast a different spell. My final number is more than 100,000, but less than 160,000.



X 50

X 100

X 2,000

X 500

X 3,000

X 600

X 30

X 60

What two spells could Gio have cast? Explore different possible solutions.

DP

# Multiply by 10, 100 and 1,000

1. Dr. Zordon has created 3 robots with different functions. He has given each robot two different number cards.

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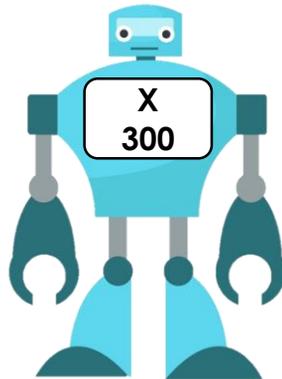
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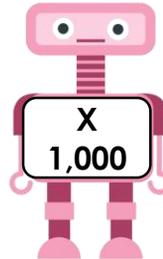
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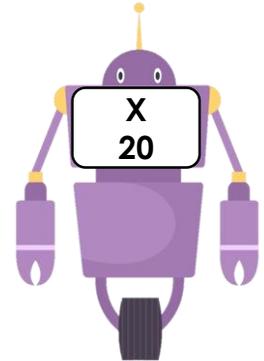
5.503



Robot 1



Robot 2



Robot 3

Investigate the different combinations of numbers Dr. Zordon could have given to each robot. What new numbers could the robots have created?

Various answers, for example:

Robot 1:  $3.753 \times 300 = 1,125.9$  and  $1.921 \times 300 = 576.3$ ; Robot 2:  $3.339 \times 1,000 = 3,339$  and  $7.2 \times 1,000 = 7,200$ ; Robot 3:  $6.01 \times 20 = 120.2$  and  $5.503 \times 20 = 110.06$

DP

2. Gio the Genie is thankful to have been released from his lamp and has agreed to grant you 3 wishes!

However, in order for him to do so, a riddle must first be solved.

He says,

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X 50

X 100

X 2,000

X 500

X 3,000

X 600

X 30

X 60

What two spells could Gio have cast? Explore different possible solutions.

Various answers, for example:

$1.293 \times 2,000 = 2586$   $2586 \times 50 = 129,300$  or  $1.293 \times 60 = 77.58$   $77.58 \times 2,000 = 155,160$

DP