

Trial & Improvement

How to ...

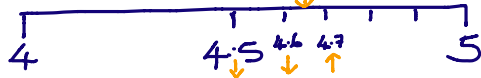
The equation

$$x^3 + 2x = 110$$

has a solution between 4 and 5. Use a trial and improvement method to find this solution.

Give your answer correct to 1 decimal place. You must show **all** your working

ONE MORE TRIAL!



x	$x^3 + 2x = 110$	Comment
4.5	$4.5^3 + 2 \times 4.5 = 100.125...$	Too small
4.7	$4.7^3 + 2 \times 4.7 = 113.223....$	Too large
4.6	$4.6^3 + 2 \times 4.6 = 106.536...$	too small
4.65	$4.65^3 + 2 \times 4.65 = 109.844625$	too small so use largest of our choice! (4)
<u><u>$x = 4.7$</u></u>		

which one?

Now have a go yourself ...

Q1. The equation $x^3 + 3x = 41$ has a solution between 3 and 4. Use a trial and improvement method to find this solution. Give your answer correct to one decimal place. You must show **all** your working.

Q2. Use trial and improvement to solve this problem.

$$x^3 - 2x = 7$$

Give your answer to 1 decimal place. Show all your trials and their outcomes.

Q3. The equation $2x^2 + x = 7$ has a solution between $x = 1$ and $x = 2$. Use trial and improvement to find this solution correct to 1 decimal place.

Exam Questions

Q1. Show that the equation $x^3 + 3x - 7 = 0$ has a solution between $x = 1$ and $x = 2$.

Using trial and improvement, find this solution correct to 1 decimal place. Show all your trials and their outcomes.

Q2. The equation $x^3 - 6x = 72$ has a solution between 4 and 5. Use a trial and improvement method to find this solution.

Give your answer correct to one decimal place.

You must show **all** your working.

Q3. The equation

$$x^3 - 3x = 15$$

has a solution between 2 and 3. Use a trial and improvement method to find this solution.

Give your answer correct to 1 decimal place. You must show **all** your working

Ready to be marked ?

Checklist

☐

Answers checked

☐

"one more" trial completed



Keywords



Things to remember ...



What went well ...

Teacher comment ..