Solve equations numerically : Trial and Improvement

Maths

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Solve equations numerically : Trial and Improvement

1. The equation $x^3 + 2x = 56$ has a solution between $x = 3$ and $x = 4$

Use trial and improvement to find this solution.

Find the solution correct to one decimal place.

(Use the table opposite to organise your work)

		Comment

Solve equations numerically : Trial and Improvement

2. The equation $2x^3 - x^2 = 245$ has a solution between $x = 5$ and $x = 6$

Use trial and improvement to find this solution.

Find the solution correct to one decimal place.

(Use the table opposite to organise your work)

		Comment

Answers

Solve equations numerically : Trial and Improvement

1. The equation $x^3 + 2x = 56$ has a solution between $x = 3$ and $x = 4$

Use trial and improvement to find this solution.

Find the solution correct to one decimal place.

(Use the table opposite to organise your work)

		Comment
3	3^3 + 2 x 3 = 33	Too small
4	4^3 + 2 x 4 = 72	Too big
3.5	49.875	Too small
3.6	53.856	Too small
3.7	58.053	Too big
3.65	55.9	Too small

Solution is x = 3.7 correct to 1 d.p.

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2. The equation $2x^3 - x^2 = 245$ has a solution between $x = 5$ and $x = 6$

Use trial and improvement to find this solution.

Find the solution correct to one decimal place.

(Use the table opposite to organise your work)

		Comment
5	$2 \times 5^3 - 5^2 = 225$	Too small
6	396	Too big
5.1	239.292	Too small
5.2	254.176	Too big
5.15	246.6593	Too big

Solution is x = 5.1 correct to 1 d.p.