The equation $x^2 + x = 23$ 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.

The equation $x^3 - x = 101$ 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.

Use trial and improvement to find a solution to the equation

$$x^3 + \sqrt{x} = 163$$

Continue the table of results.
Give your solution to 1 decimal place.

x	$x^3 + \sqrt{x}$	Comment
6	$6^3 + \sqrt{6} = 218.449$	Too big

Use trial and improvement to solve this problem.

$x^3 + x^2 = 100$

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

Use trial and improvement to solve this problem.

$x^3 + 2x = 42$

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

The equation $x^3 - 5x - 2 = 0$ has a solution between $x = 2$ and $x = 3$.

Use trial and improvement to find this solution correct to 1 decimal place.

(a) Show that the equation $x^3 - 15x + 3 = 0$ has a solution between $x = 3$ and $x = 4$.

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

There is a positive value of x which satisfies $x2 = 6.5$. Find this value of x correct to the nearest whole number. You must justify your answer.

Extension

A solution of the equation $x^3 + 4x^2 = 8$ lies between -3 and -3.5.

Find this solution by trial and improvement. Give your answer correct to 2 decimal places.