**Newton's method for calculating a square root**

This method involves a bit of multiplying and dividing but it will arrive at the square over time and trials:

Step 1

Let X be the number you wish to take the square root of. Let G be your best guess at each stage of the calculation.

Step 2

To find the next G, call it G', you set g' equal to:

G' = ( X + G^2) / 2G

Step 3

This G' becomes your next G. Iterate, that is repeat the calculation over and over, and you will eventually arrive at the square root you seek.