

Solving Equations by Trial and Improvement

Try thinking of a number between 1 and 100.

$x^2 = 30$

x	x^2	
15	225	too big
2	4	too small
5	25	too small
6	36	too big
5.5	30.25	tb }
5.4	29.16	ts }
5.45	29.7	ts

x is between 5.45 and 5.5
 $x = 5.5$ to 1dp

1. $x^2 = 50$
 2. $x^3 = 100$
 $x^3 = 40$

x	x^2	
10	100	tb
5	25	ts
7	49	ts *
8	64	tb
7.5	56.25	tb
7.1	50.41	tb *
7.05	49.7	ts

x is between 7.05 and 7.1
 $x = 7.1$

$x^2 = 80$

x	x^2	
8.9	79	
9	81	
8.95	80.1	tb
8.9		

$x = 8.9$
 8.95×8.9

$x^3 = 50$ $x = 3.6$

x	x^3	
3	27	ts
4	64	tb
3.5	42.8	ts
3.8	54	tb
3.7	50.6	tb

3.6 3.65 3.7