

Trial and improvement is the easiest type of mathematics you can do. Trial and improvement just means 'take a guess and see how close you are'.

# Part 1 Simple Equations

Using you calculator to help, solve these equations using trial and improvement.

<b>1</b> . x + 67 = 123	<b>5</b> . 15 x = 825	<b>9</b> . 2378 + x = 3456
<b>2</b> . 89 + x = 436	<b>6</b> . x × 77 = 1001	<b>10</b> . 763 - x = 99
<b>3</b> . x - 67 = 282	<b>7</b> . 512 ÷ x = 8	<b>11</b> . x × 101 = 10100
<b>4</b> . 962 - x = 386	<b>8</b> . x ÷ 17 = 76	<b>12</b> . x ÷ 84 = 0.5

## Part 2 A Number Times Itself

All these equations are of the same type. You must guess the number that, when multiplied by itself, gives you the answer shown.

<b>1</b> . x × x = 81	<b>4</b> . x × x = 625	<b>7.</b> x × x = 10000
<b>2</b> . x × x = 144	<b>5</b> . x × x = 1296	<b>8</b> . x × x = 0.25
<b>3</b> . x × x = 400	<b>6</b> . x × x = 9801	<b>9</b> . x × x = 0.01

## Part 3 Laying out your results

- a. Copy the table on the right.
- **b.** Use the table to solve the equation:  $x^2 = 30$ .

### Instructions:

- Write a guess for x in the table.
- Calculate x<sup>2</sup> and add it to the 'Result' column.
- Say whether the result is 'too high' or 'too low'.
- c. Draw a new table and solve the equation:  $x^2 = 60$ .
- **d**. Repeat for the equation:  $x^2 = 1000$ .
- **e**. Repeat for the equation:  $x^3 = 100$ .

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	Guess	Result	Too High / Too Low
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

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