SOLVING ONE-VARIABLE EQUATIONS

One-variable equations include problems across all disciplines, simple versions being:

- When will sales be $4 million per month if current sales are $3 million a month and increases are expected at $250,000 every 6 months? (The unknown variable being the number of months' time from now). The graph below illustrates the problem.
- If its 625 km to Canberra, how fast must I go if I want to take two pit stops of 30 minutes and still get there in less than 8 hours? (The unknown variable being the speed.)
- Any and every Drug Calculation used by Nurses!
- How many square metres of the new 6-storied building must be allocated to washrooms if the first two floors are retail, the third to fifth offices and the sixth a staff cafeteria?
- How many cars can we fit into the car park if we have a rectangle of 20 metres by 100 metres?

The methods of algebra which help you solve problems these are expressed in equations with one variable.

Solving equations with one variable involves expanding (the Distributive Law), factorising, simplifying, and balancing techniques. Because Order of Operations, or BODMAS, is important to solving all equations, read and work on this guide Algebra02 BODMAS.pdf.

This introductory and subsequent three videos give a clear concise explanation of the techniques, and explicitly uses the rules of BODMAS, and hence are recommended viewing:

http://patrickjmt.com/solving-linear-equations/
http://patrickjmt.com/solving-linear-equations-example-1/
http://patrickjmt.com/solving-a-basic-linear-equation-example-2/
http://patrickjmt.com/solving-a-basic-linear-equation-example-3/

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