Application of linear equations.

Example 1:

A flat screen television costs \$1260 after a 5% tax is included. What was the price before the tax?

1) Translate into simple English.

   price before tax + tax on the price = total price

2) Introduce symbols to represent unkonwn quantities:

   The letter p stands for the price before tax.

3) Write an equation that relates p and the final price.

$$1\% = \frac{1}{100}$$

   $p + 5\%$ of $p = 1260$

   5% is $\frac{5}{100} = 0.05$

   $p + 0.05p = 1260$
   $1p + 0.05p = 1260$
   $1.05p = 1260$

   $p = \frac{1260}{1.05} = 1200$

4) This means the price of the TV before the sales tax is 1200.

5) Of course, the real price of a TV is half a wasted lifetime.