

Solving Problems using Equations

Note Title

21/05/2010

- ① The sum of 3 consecutive odd numbers is 81.
What is the smallest number?

Let the smallest number be x .

The other numbers are $x + 2$ and $x + 4$

$$\text{So } x + x + 2 + x + 4 = 81$$

$$3x + 6 = 81$$

$$\begin{array}{r} (-6) \quad \quad (-6) \\ 3x + 6 = 81 \\ \hline 3x = 75 \end{array}$$

$$3x = 75$$

$$\begin{array}{r} (\div 3) \quad \quad (\div 3) \\ 3x = 75 \\ \hline x = 25 \end{array}$$

$$\underline{\underline{x = 25}}$$

- ② Joe is twice as old as Tom and Sarah is 3 years older than Joe. The total of their ages is 38. How old is Tom?

Let Tom's age be x .

Then Joe's age is $2x$ and Sarah's age is $2x + 3$

$$\text{So } x + 2x + 2x + 3 = 38$$

$$5x + 3 = 38$$

$$\begin{array}{r} (-3) \quad \quad (-3) \\ 5x + 3 = 38 \\ \hline 5x = 35 \end{array}$$

$$5x = 35$$

$$\begin{array}{r} (\div 5) \quad \quad (\div 5) \\ 5x = 35 \\ \hline x = 7 \end{array}$$

$$x = 7$$

Tom is 7 years old.

