Example of substitution

$$T(n) = 4T(n/2) + n$$
$$\leq 4c(n/2)^3 + n$$
$$= (c/2)n^3 + n$$
$$= cn^3 - ((c/2)n^3 - n) \longleftarrow \textit{desired} - \textit{residual}$$
$$\leq cn^3 \longleftarrow \textit{desired}$$

whenever $(c/2)n^3 - n \geq 0$, for example,
if $c \geq 2$ and $n \geq 1$.

residual