$$f(n) \leq c \cdot g(n) \qquad n \geq n_0$$

$$\underline{c \cdot g(n) - f(n) \geq 0} \qquad n \geq n_0$$

Eksempel: $\underbrace{7n}_{f}$ er $\underbrace{O(n)}_{g}$

$$c \cdot g(n) - f(n) \geq 0$$

$$c \cdot n - 7n \geq 0$$

$$(\underline{c-7})n \geq 0 \qquad c > 7 . \text{ Velge } c = 8$$

$$n \geq 0 \qquad \rightarrow n_0 = 1$$

$$n \geq n_0 \quad \rightsquigarrow \quad n \geq 0$$

Eksempel: $\underbrace{4n^3 + n^2 + 3}_{f}$ er $\underbrace{O(n^3)}_{g}$

$c \cdot g(n) - f(n) \geq 0$

$c \cdot n^3 - (4n^3 + n^2 + 3) \geq 0$

$(c-4)n^3 - n^2 - 3 \geq 0$ Velge $\underline{c = 5}$

$n^3 - n^2 \geq 3$

$n_0 = 1:$ $1^3 - 1^2 = 0 \not\geq 3$ X

$\underline{n_0 = 2:}$ $2^3 - 2^2 = 8 - 4 \geq 3$ ✓