

Show  $7n^2 + 5n - 1$  is  $\mathcal{O}(n^2)$

Need to prove  $7n^2 + 5n - 1 \leq Cn^2$  for  $C > 0, n > n_0$

$$7n^2 \leq 7n^2$$

$$5n \leq 5n^2$$

(if  $n \geq 1$ )

$$-1 \leq 0$$

$$\begin{aligned} 7n^2 + 5n - 1 &\leq 7n^2 + 5n^2 \\ &\leq 12n^2 = Cn^2 \end{aligned}$$