

1) What is the “big-oh” growth rate of the function  $f(n) = 3n^2 + 2n$ ?

$f(n)$  is  $O(n^2)$

2) Call your answer to the previous question  $g(n)$ . Justify your answer to the previous by finding the constant multiple and point that it starts to apply: (Fill in the boxes; show and supporting work or derivation below)

$$f(n) \leq \boxed{5} \cdot g(n) \text{ whenever } n \geq \boxed{1}$$

$$3n^2 + 2n \leq 3n^2 + 2n^2 = 5n^2$$

Note that there are multiple possible answers. The coefficient cannot be 3, however. It must be larger, how much larger is related to the answer for  $n$ .