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CSIS 213-3941

Assignment 7&8 Quiz Part 2

**Question 3**

Let b0, b1, b2, . . . be deﬁned by the formula bn = 4n, for all integers n ≥ 0. Show that this sequence satisﬁes the recurrence relation bk = 4bk−1, for all integers k ≥ 1.

**Proof:**

By definition of b0, b1, b2, . . . , for each integer k ≥ 1,

bk = 4k

bk - 1 = 4k - 1

Then bk = 4bk−1

= 4(4k – 1)

= 4(4k \* ¼)

= 4k