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<u>.</u>
using induction, show that by-4b, +5
and b= (11) 4 - 5 produce the same segmence.
Pf (induction)
BC: $b = \frac{11}{3} + \frac{1}{3} = \frac{1}{3} + \frac{1}{3} = \frac{1}{$
1 3 3 3 3 3 7 7
IC: Assume b = (11/3) 4-1- 3 for some R>1.
We need to show b = (1/3 /4 - 2/3.)
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Lie valo High by The RD
we note that by = 4 by + 5 ky RR
= 4 (" 1 4 - 5) + 5 by IH
La la la
$=\left(\frac{11}{3}\right)4\frac{7}{3}+\frac{5}{3}$
$=\frac{11}{3}4 - \frac{20}{3} + \frac{19}{8}$
3 3 8
\be_{\sigma_1} = \left(\frac{1}{3}\right) 4 - \frac{5}{3}\right\.
(84) (37) 3
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10 09 2017 1:37n

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10/9/17, 6:39 AM, 7m 42s



Using induction, show that b=4b,+5 and $b_n = (\frac{11}{3}) + \frac{n-1}{3} = \frac{5}{3}$ produce the same sequence. Pf (induction) BC: $b_1 = \frac{11}{3} + \frac{1}{3} = \frac{11}{3} = \frac{1}{3} = \frac{$ IC: Assume b = (11) 1/2-1 = for some k > 1. show by $= \left(\frac{1}{3}\right) 4 - \frac{5}{3}$. We note that $b_{R+1} = 4b_{R} + 5$ by RR $= 4\left(\frac{11}{3}4 - \frac{5}{3}\right) + 5$ by IH $= \left(\frac{11}{3}\right) 4 - 4\left(\frac{5}{3}\right) + 5$ $= \left(\frac{11}{3}\right) 4 - 20 + \frac{15}{3}$ $= \frac{11}{3} 4 - \frac{20}{3} + \frac{15}{3}$