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| | MTH 354 | 10 4-17- |
|--|---|--|
| 871 | (cout.) | |
| ラ ・・ | 5 1000 investment at | - 12 per leut. |
| | The amount in the | _ |
| | years | |
| 11 | a recurrence ralation debine the segmen | u & intial condition |
| | A = \$ was | |
| A. | $=\underbrace{(\infty_0+(12)(1000)}_{A_0}=(1$ | 12) 1000 Ao |
| A : | 2 = A, + (-12) A, = (1.12 | L) A ₁ |
| | x = (1.12) A x -1 , A. | |
| Fiv | id a closed form f | or the above RR. |
| A | $3 = (1.12) A_{\lambda} = (1.12)(1.12)$ | $A_1 = (1.12)^3 A_1 = (1.12)^3 A_2$ $= (1.12)^3 A_2$ |
| | An= (1.12) An=1 | - ((·i() /La |
| | = (1.12) A _{N-Q} | |
| | = (1,12) A N-N | |
| 1 | | explicit form |
| A ₀ = A ₁ = A ₂ = | \u00 \u20 \154.4 | |
| 1,2 | A3=1404.93 | |

10.03.2017 2:01p

10/3/17, 7:03 AM, 9m 1s



871 (cont.) Ex: \$ 1000 investment at 12 percent

An = The amount in the account at the end of My years

Find a recurrence relation à intial condition that define the sequence & An?

501: A = \$ 1000

 $A_1 = 1000 + (12)(1000) = (1.12) 1000$ $A_0 = 1.12) 1000$

A2 = A1 + (.12) A1 = (1.12) A1

 $A_{N} = (1.12) A_{N-1}$, $A_{s} = 1000$

Find a closed form for the above RR.

 $A_3 = (1.12) A_1 = (1.12)(1.12) A_1 = (1.12)^2 A_1 = (1.12)^2 (1.12) A_3$ = (1,12) A.

A N= (1.12) A N-1

= (1.12) A_N (2)

= (1.12) A_N-N

A_N= (1.12) A_o our explicit form

A = 1000 A1= 1120 A2=1254.4

Az= 1404,93