

Assignment-1

EE:1205 Signals and Systems
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I. QUESTION:

Ramkali saved Rs 5 in the first week of a year and then increased her weekly savings by Rs 1.75. If in the n th week, her weekly savings become Rs 20.75, find n .

II. SOLUTION:

Parameter	Value
First term of AP ($x(0)$)	5
Common difference (d)	1.75
n^{th} term of AP ($x(n)$)	20

TABLE 0
PARAMETER LIST

$$x(n) = x(0) + (n)(d) \quad (1)$$

$$20.75 = 5 + (n)(1.75) \quad (2)$$

$$20.75 - 5 = (n)(1.75) \quad (3)$$

$$15.75 = (n)(1.75) \quad (4)$$

$$n = \frac{15.75}{1.75} = \frac{1575}{175} \quad (5)$$

$$n = \frac{63}{7} = 9 \quad (6)$$

$$n = 9 \quad (7)$$

Hence, n is 9.