Each school day starting today until December 19 I am going to give each of you $7 more than I did the day before. Today I will give you $7. Tomorrow I will give you $14. How much money total money will you receive before winter break?

$840

# Arithmetic Sequences and Series

Vocabulary of Sequences (Universal)

$a_1 \rightarrow$ First term

$a_n \rightarrow$ nth term

$n \rightarrow$ number of terms

$S_n \rightarrow$ sum of n terms

$d \rightarrow$ common difference

nth term of arithmetic sequence $\rightarrow a_n = a_1 + (n-1)d$

sum of n terms of arithmetic sequence $\rightarrow S_n = \frac{n}{2}(a_1 + a_n)$

Find $S_{63}$ of $-19, -13, -7, \ldots$

-19 $a_1 \rightarrow$ First term

353 ?? $a_n \rightarrow$ nth term

63 $n \rightarrow$ number of terms

x $S_n \rightarrow$ sum of n terms

6 $d \rightarrow$ common difference

$$a_n = a_1 + (n-1)d$$

$$?? = -19 + (63-1)(6)$$

$$?? = 353$$

$$S_n = \frac{n}{2}(a_1 + a_n)$$

$$S_{63} = \frac{63}{2}(-19 + 353)$$

$$S_{63} = 10521$$