

MATHEMATICS DEPARTMENT

SEQUENCE & SERIES | ARITHMETIC SERIES | HOMEWORK MEMO | 12/02/2021

No	Solution
a.)	$a = 7$ and $d = T_2 - T_1$ $d = 3 - 7$ $d = -4$ then $T_n = a + (n - 1)d$ $T_n = 7 + (n - 1)(-4)$ $T_n = 7 - 4n + 4$ $T_n = -4n + 11$
b.)	$T_n = -4n + 11$ with $n = 30$ $T_{30} = -4(30) + 11$ $T_{30} = -109$
c.)	$T_n = -4n + 11$ with $T_n = -153$ $-153 = -4n + 11$ $4n = 11 + 153$ $4n = 164$ $\therefore n = 41$
d.)	$S_n = \frac{n}{2}[2a + (n - 1)d]$ $S_{50} = \frac{50}{2}[2(7) + (50 - 1)(-4)]$ $S_{50} = -4550$