

Number of Terms in an Arithmetic Series

Determine the number of terms (n) in each arithmetic series using the given sum.

1) $\sum_{u=1}^n (-37 - 18u) = -3040$

2) $a_1 = -68, a_n = -308, S_n = -3948$

3) $a_1 = 76, a_n = 193, S_n = 5380$

4) $\sum_{w=1}^n \left(-\frac{2}{3}w + \frac{5}{9}\right) = -25$

5) $2.7 - 6.7 - 16.1 - \dots$ up to n terms $= -80.5$

6) $a_1 = 6\sqrt{5}, a_n = 465\sqrt{5}, S_n = 7065\sqrt{5}$

7) $\sum_{x=1}^n (54.5 + 5.5x) = 2771.5$

8) $94 + 67 + 40 + \dots$ up to n terms $= -654$
