The method: Geometric series

$S_n = a_1(r^n - 1) \div (r - 1)$.

the first 5 terms of 3, 9, 27, ...: sum = 363

$a_1 = 3,\ r = 3,\ n = 5$

$$\frac{3(3^5 - 1)}{3 - 1} = \frac{3(243 - 1)}{2} = 363 \quad S_n = a_1(r^n - 1) \div (r - 1)$$

the first 6 terms of 4, −8, 16, ...: sum = −84

$a_1 = 4,\ r = -2,\ n = 6$

$$\frac{4((-2)^6 - 1)}{(-2) - 1} = \frac{4(64 - 1)}{-3} = -84 \quad S_n = a_1(r^n - 1) \div (r - 1)$$

Problems 1 and 2 worked out · Version 0A

the first 5 terms of 1, −2, 4, ...: sum = 11

$a_1 = 1,\ r = -2,\ n = 5$

$$\frac{1((-2)^5 - 1)}{(-2) - 1} = \frac{1(-32 - 1)}{-3} = 11 \quad S_n = a_1(r^n - 1) \div (r - 1)$$

the first 6 terms of 3, 6, 12, ...: sum = 189

$a_1 = 3,\ r = 2,\ n = 6$

$$\frac{3(2^6 - 1)}{2 - 1} = \frac{3(64 - 1)}{1} = 189 \quad S_n = a_1(r^n - 1) \div (r - 1)$$

Geometric series · Version 0A

1) 11 2) 189 3) −42 4) 11 5) 200 6) 60
7) 1092 8) 60 9) 1092 10) 126 11) 33 12) 30
13) −42 14) 45 15) 55 16) 765 17) 1820
18) 364