

More Practice: Intro to Series

KEY

For the given sequences:

- Determine if it is Arithmetic or Geometric
- Write the terms of the given partial sum
- Calculate the partial sum

Ex: $a = 6, 3, 0, -3, \dots; S_7$

- (a) Arithmetic (b) $S_7 = 6 + 3 + 0 + -3 + -6 + -9 + -12$ (c) $= -21$

A 1. $a = 6, 3, 0, \dots; S_6 = 6 + 3 + 0 - 3 - 6 - 9 = -9$

A 2. $a = 1, 5, 9, 13, \dots; S_5 = 1 + 5 + 9 + 13 + 17 = 45$

G 3. $a = 2, 6, 18, 54, \dots; S_4 = 2 + 6 + 18 + 54 = 80$

A 4. $a = 5, 8, 11, 14, \dots; S_8 = 5 + 8 + 11 + 14 + 17 + 20 + 23 + 26 = 124$

G 5. $a = 1, -3, 9, -27, \dots; S_6 = 1 - 3 + 9 - 27 + 81 - 243 = -182$

A 6. $a = 2.3, 1.9, 1.5, 1.1, \dots; S_7 = 2.3 + 1.9 + 1.5 + 1.1 + .7 + .3 - .1 = 7.7$

A 7. $a = 2, 4, 6, 8, \dots; S_{12} = 2 + 4 + 6 + 8 + 10 + 12 + 14 + 16 + 18 + 20 + 22 + 24 = 156$

A 8. $a = \frac{1}{2}, \frac{5}{2}, \frac{9}{2}, \frac{13}{2}, \dots; S_6 = \frac{1}{2} + \frac{5}{2} + \frac{9}{2} + \frac{13}{2} + \frac{17}{2} + \frac{21}{2} = \frac{66}{2} = 33$

G 9. $a = \frac{1}{2}, \frac{3}{2}, \frac{9}{2}, \frac{27}{2}, \dots; S_6 = \frac{1}{2} + \frac{3}{2} + \frac{9}{2} + \frac{27}{2} + \frac{81}{2} + \frac{243}{2} = \frac{364}{2} = 182$

A or G 10. $a = 0, 0, 0, 0, \dots; S_{300} = 0 + 0 + \dots + 0 = 0$