

## Unit 7 Review Answer Key

1. 7, 10, 15, 22, 31      2. 9, 27, 81, 243, 729      3. 7, 9, 13, 21, 37      4. -2, 3, 15, 48, 165
5. a. Arithmetic      b.  $a_n = -5n - 5$       c.  $a_1 = -10$   
 $a_n = a_{n-1} - 5$
6. a. Neither      c.  $a_1 = \sqrt{3}$   
 $a_n = (a_{n-1})^2$
7. a. Geometric      b.  $a_n = -6\left(\frac{1}{3}\right)^{n-1}$       c.  $a_1 = -6$   
 $a_n = \frac{1}{3}a_{n-1}$
8. a. Neither      b.  $a_n = 2^n + 1$       c.  $a_1 = 3$   
 $a_n = 2a_{n-1} - 1$
9. a. Neither      c.  $a_1 = 10$        $a_2 = 7$   
 $a_n = a_{n-1} - a_{n-2}$
10. a. Neither      b.  $a_n = n^3 + 1$
11.  $a_n = -12n + 253$       12.  $a_n = 7(4)^{n-1}$       13.  $\sum_{n=1}^{10} 5n$       14.  $\sum_{n=1}^{\infty} \left(\frac{n}{n+3}\right)$   
 $a_6 = 181$        $a_6 = 7168$
15. 80      16. 5691      17. 36      18. 210
19. 728      20. 20,475      21. 22,500
22. a. 1.89mm      b. 24.1mm
23. a. \$19.25      b. \$750.50
24. a. Arithmetic      b. Geometric      c. 22 inches      d. 4.38 inches  
e. Phoebe will be ahead. She will have walked 357 inches while Calvin will have walked 321.6 inches.