9.1 Worksheet **Name_____Date_____Period_____**

Determine whether each sequence is an arithmetic sequence. If so, find the common difference and the next three terms.

1) −10, −7, −4, −1, …

2) 0, 1.5, 3, 4.5, …

3) 5, 8, 12, 17, …

4) −20, −20.5, −21, −21.5, …

Find the indicated term of each arithmetic sequence.

5) 28^{th} term: 0, −4, −8, −12, …

6) 15^{th} term: 2, 3.5, 5, 6.5, …

7) 37^{th} term: $a_1 = -3$; $d = 2.8$

8) 14^{th} term: $a_1 = 4.2$; $d = -5$

9) 17^{th} term: $a_1 = 2.3$; $d = -2.3$

10) 92^{nd} term: $a_1 = 1$, $d = 0.8$

Find the common ratio of each geometric sequence. Then find the next three terms.

11) 1, 4, 16, 64, …

Common ratio: _____; Next three terms: _____

12) 10, 100, 1000, 10,000, …

Common ratio: _____; Next three terms: _____

13) 128, 64, 32, 16, …

Common ratio: _____; Next three terms: _____

14) 4, −20, 100, −500, …

Common ratio: _____; Next three terms: _____

15) Find the 6^{th} term: $a_1 = 2$, $r = 4$.

16) Find the 8^{th} term: $a_1 = -3$, $r = 2$.

17) Find the 9^{th} term: $a_1 = 7$, $r = -2$.

18) Find the 5^{th} term of the geometric sequence 9, 27, 81, 243, …

19) $S = 2\pi rh$, solve for h

20) $S = 2B + F$, solve for B

21) $S = \frac{1}{2}at^2$, solve for a