

## MATH ANALYSIS II HONORS

### REVIEW – CHAPTER 13

#### Answers

1.  $d = -3$ ;  $t_1 = 79$ ;  $t_{50} = -68$

2.  $r = 2/3$        $t_7 = 64/9$

3.  $t_2 = 8$ ;  $t_3 = 15$ ;  $t_4 = 23$ ;  $t_5 = 32$

4.  $t_1 = 1$ ;  $t_n = t_{n-1} + n$

5.  $t_n = 16 + (n-1)8 = 8n + 8$

6.  $t_1 = 8$ ;  $d = 3$ ;  $t_{50} = 155$        $S_{50} = 4075$

7.  $t_1 = 12$ ;  $t_n = 88$ ;  $n = 20$        $S_{20} = 1000$

8.  $S_{30} = 4^{30} - 1 \approx 1.153 \cdot 10^{18}$

9.  $n = 500$ ;  $S_{500} = 325,250$

10. a. 0

b.  $5/7$

c.  $\infty$

d. 0

11.  $r = -1/2$ ;  $S = 2/3$

12.  $r = x + 1$        $-1 < x + 1 < 1$        $-2 < x < 0$

13. 133

14.  $\sum_{n=1}^7 11 - 4n$

15. 48, -24, 12