

Alg 2
CH11

Study Guide 11.1-11.5

1.a) Arithmetic

b) REC

$$a_1 = 7$$

$$a_n = a_{n-1} + 6$$

c) 31, 37, 43

d) $a_{12} = 73$

EXP

$$a_n = 6n + 1$$

2.a) Neither

b) REC

$$a_1 = 1$$

$$a_2 = 1$$

$$a_n = (a_{n-1}) + (a_{n-2})$$

* Famous: FIBONACCI SEQUENCE

c) 8, 13, 21

d) $a_{12} = 144$

3a) Geometric

b) REC

$$a_1 = 500$$

$$a_n = \frac{1}{5} \cdot a_{n-1}$$

c) $\frac{4}{5}, \frac{4}{25}, \frac{4}{125}$

d) $a_{12} = \frac{4}{390625}$

EXP

$$a_n = 500\left(\frac{1}{5}\right)^{n-1}$$

4a) Arithmetic

b) REC

$$a_1 = 56$$

$$a_n = a_{n-1} - 17$$

c) -12, -29, -46

d) $a_{12} = -131$

EXP

$$a_n = -17n + 73$$

5a) Geometric

b) REC

$$a_1 = 2$$

$$a_n = 2 \cdot a_{n-1}$$

c) 32, 64, 128

d) $a_{12} = 4096$

EXP

$$a_n = 2 \cdot 2^{n-1}$$

6a) Geometric

b) REC

$$a_1 = 3$$

$$a_n = 1.2 a_{n-1}$$

c) 6.2208, 7.46496, 8.957952

d) $a_{12} = 22.29025112$

EXP

$$a_n = 3(1.2)^{n-1}$$

7a) $a_1 = 50$

$$a_n = 50 + (n-1)5$$

where $n = \# \text{ of months}$

b) $a_6 = 75$

$$\$75$$

8a) 8

b) $\pm 4\sqrt{3}$

9a) $\frac{5}{4}$

b) ± 1

10a) -7

b) $\pm 2\sqrt{6}$

11. $S = \frac{5}{9}$

12. No sum - infinite arithmetic