

HW34

A2

1. a) 100, 105, 110.25, 115.76

b) $u_0 = 100$

$$u_n = 1.05 u_{n-1}$$

$$n \geq 1$$

c) ~~$y = 1.05x + 100$~~ $y = 100(1.05)^x$
 ~~$u_n = 1.05u_{n-1} + 100$~~

2. a) 1200, 1000, 833.33, 694.44, ~~5~~

b) $u_0 = 1200$

$$u_n = \frac{5}{6} \cdot u_{n-1}$$

$$n \geq 1$$

c) ~~$u_n = \frac{5}{6}u_{n-1} + 1200$~~ $y = 1200\left(\frac{5}{6}\right)^x$

3. a) 64, 112, 196, 343

b) $u_0 = 64$

$$u_n = 1.75 u_{n-1}$$

$$n \geq 1$$

c) $y = 64(1.75)^x$

4. a) 189, 166.32, 146.36, 128.80

b) $u_0 = 189$

$$u_n = 0.88 \cdot u_{n-1}$$

$$n \geq 1$$

c) $y = 189(0.88)^x$

5. $y = 850(0.953)^x$

$$y = 850(0.953)^{12}$$

$$y = \$477.02$$

6. $y = 4.15(1.058)^x$

$$y = 4.15(1.058)^{10}$$

$$y = \$7.29$$

7. 3, 6, 12, 24, 48

8. 162, 54, 18, 6, 2, $\frac{2}{3}$

9. 3072, 768, 192, 48, 12

10. 1215, 810, 540, 360, 240

11. $\frac{3}{2}$, 1, $\frac{2}{3}$, $\frac{4}{9}$, $\frac{8}{27}$

12. $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1, 2, 4

13. $\frac{1}{27}$, $\frac{1}{9}$, $\frac{1}{3}$, 1, 3, 9

14. 4, 2, 1, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$