

# HW33

p 43 # 1, 2, 3 a, b, 4-6, 9  
p 58 # 2, 3

## P43

1. a) 1.5 = cr, growth  
50% I.
- b) 0.4, decay, 60% D.
- c) 1.03, growth, 3% I
- d) 0.92 decay, 8% D

2. a)  $u_0 = 100$   $u_{10} = 38.44.34$   
 $u_n = 1.5 \cdot u_{n-1}$   
 $n \geq 1$

b)  $u_0 = 73.4375$   $u_{10} = 0.019$   
 $u_n = 0.4 \cdot u_{n-1}$   
 $n \geq 1$

c)  $u_0 = 80$   $u_{10} = 104.38$   
 $u_n = 1.03 \cdot u_{n-1}$   
 $n \geq 1$

d)  $u_0 = 208$   $u_{10} = 98.21$   
 $u_n = 0.92 \cdot u_{n-1}$   
 $n \geq 1$

3. a) 2000, 2100, 2205, 2315.25
- b) CR = 0.85  
5000, 4250, 3612.5, 3070.63

4. a) ii decay
- b) i growth
- c) iii constant

5. a)  $x(1+A)$
- b)  $A(1-0.18)$
- c)  $x(1+0.08125)$
- d)  $u_{n-1}(2-0.85)$

6. a) 0.8
- b) 13.42 inches
- c) 22 bounces  
32 bounces

9. a)  $u_5 = 29.85$   $14.4$ ,  $17.28$ ,  $20.736$ ,  $24.88$ ,  $29.85$   
~~when 18 people~~  
 b) 30 employees.

## P58

2. C, i Arith.
- A, ii Geo.
- B, iv Arith.
- D, iii Geo.

3. a) geometric, decay, nonlinear
- b) arithmetic, ~~increasing~~ <sup>decreasing</sup>, linear
- c) geometric, growth, nonlinear
- d) arithmetic, increasing, linear