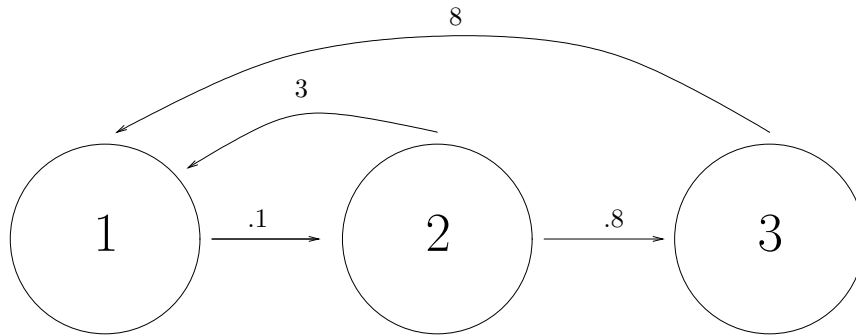# Mathematics 172 Homework.

Problem 1:
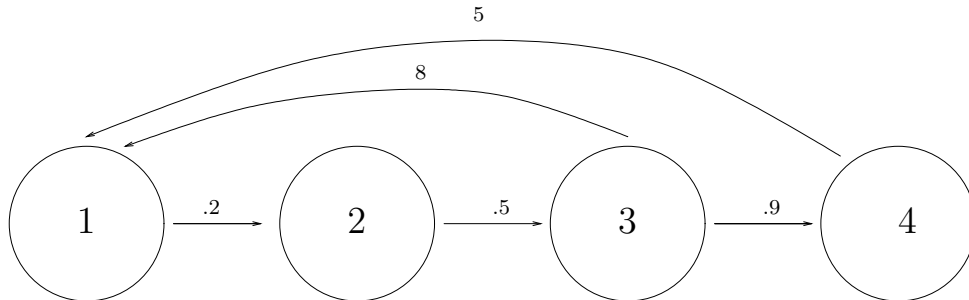

For the structured age growth in the figure above, complete the following table:

$x \backslash t$	0	1	2	3
1	100			
2	10			
3	8			

(a) When $t = 1$ what percent of the population is in stage 1? What percent is in stage 2? What percent is in stage 3?

(b) When $t = 2$ what percent of the population is in stage 1? What percent is in stage 2? What percent is in stage 3?

Problem 2

For the last figure complete the table:

$x \backslash t$	0	1	2	3
1	1,000			
2	200			
3	100			
4	40			

(a) When $t = 1$ what percent of the population is in stage 1? What percent is in stage 2? What percent is in stage 3?, What percent is in stage 4?

Answer for problem 1.

$x\backslash t$	0	1	2	3
1	100	94	94	92.2
2	10	10	9.4	9.4
3	8	8	8	7.52

When $t = 1$, the total population is $94 + 10 + 8 = 112$. Of these 94 are in stage 1 and 94 is 95.12% of 112. There are 10 in stage 2, which is 8.93% of 112, and there are 8 in stage 3, which is 7.1429% of 112.

When $t = 2$ the percents are total is $94 + 9.4 + 8 = 111.4$ and the percents are 84.38%, 8.44%, and 7.18%.

Answer for problem 2.

$x\backslash t$	0	1	2	3
1	1,000	1,000	1,125	1,125
2	200	200	200	250
3	100	100	100	100
4	40	90	90	90

When $t = 1$, the total population is $1,000 + 200 + 100 + 90 = 1,390$. Of these 1,000 are in stage 1 and 1,000 is 71.94% of 1,390. There are 200 in stage 2, which is 14.39% of 1,390, there are 100 in stage 3, which is 7.19% of 1,390, and there are 90 in stage 4 with is 6.45% of 1,390.

When $t = 2$ the total population is $1,250 + 200 + 100 + 90 = 1,640$. and the percents are 76.22%, 12.20%, 6.10%, and 5.49%.