The tables below are demographic data for an endangered brown bear population during wet years (Part A) and dry years (Part B).

Age	Age Midpoint (x)	Number Surviving to Time Period (n$_x$)	Survivorship (l$_x$)	Per Capita Fecundity (m$_x$)	l$_x$m$_x$	xl$_x$m$_x$
(A) Wet Years						
Cubs (0-1 yrs)	0.5	6000	1	0	0.000	0.000
Juveniles (1-4 yrs)	2.5	4500	0.75	0		
Young Adults (5-16 yrs)	10.5	2100	0.35	1.28		
Old Adults (17-24 yrs)	20.5	720		1.67		
(B) Dry Years						
Cubs (0-1 yrs)	0.5	6000	1	0	0.000	0.000
Juveniles (1-4 yrs)	2.5	2700	0.45	0		
Young Adults (5-16 yrs)	10.5	1260		0.89		
Old Adults (17-24 yrs)	20.5	300		1.5		

Potentially useful equations:

$$\lambda = N_{t+1}/N_t \qquad\qquad T = \sum (xl_xm_x)/R_0$$
$$R_0 = \sum l_xm_x \qquad\qquad r = (\ln R_0)/T$$
$$dN/dt = r_{max}N(1-N/K) \qquad\qquad N_t = N_0e^{rt}$$

Researchers hypothesized that drought was contributing to declining numbers of brown bears. Do your calculations above support this hypothesis? Why or why not?

What is the average generation time for this Bear population in Wet and Dry Years?
　　　Wet: 　　　　　　　　　　　　Dry:

What is the per capita rate of increase (intrinsic rate of increase) for this Bear population during wet and dry years?
　　　Wet: 　　　　　　　　　　　　Dry:

Assuming the wet conditions were constant, what would the population of brown bears be in 25 years?

Assuming the dry conditions were constant, what would the population of brown bears be in 25 years?

Consider our discussion of life histories and describe why you think drought may be effecting the population dynamics of this Bear population.