

Math 2300, Spring 2019  
 Formulas for HW 15 and HW 16  
 Section 5.7

Problems	Recursive Definition	Formula
4 and 29:	$b_k = \frac{b_{k-1}}{1+b_{k-1}} \quad k \geq 1, b_0=1$	$b_n = \frac{1}{n+1}, n \geq 0$
7 and 32:	$e_k = 4e_{k-1} + 5, k \geq 1, e_0=2$	$e_n = \frac{1}{3}(11 * 4^n - 5),$ $n \geq 0$
8 and 33:	$f_k = f_{k-1} + 2^k, k \geq 2, f_1 = 1$	$f_n = 2^{n+1} - 3, n \geq 1$
11 and 36:	$p_k = p_{k-1} + 2 * 3^k, k \geq 2, p_1 = 2$	$p_n = 3^{n+1} - 7, n \geq 1$
13 and 38:	$t_k = t_{k-1} + 3k + 1, k \geq 1, t_0=0$	$t_n = \frac{3n^2 + 5n}{2}, n \geq 0$