

Exercise #3

(範圍: Recurrence Relations)

1. P. 455: 2 (only for (c) and (d)). (12%)
2. P. 468: 1 (only for (a), (c), (d) and (e)). (32%)
3. Solve the following recurrence relations. (20%)
 - (a) $a_n + 5a_{n-1} + 8a_{n-2} + 4a_{n-3} = 0$, $a_1 = 0$, $a_2 = 1$, $a_3 = 3$, $n \geq 4$.
 - (b) $a_n - 5a_{n-1} + 7a_{n-2} - 3a_{n-3} = 0$, $a_0 = -1$, $a_1 = 1$, $a_2 = 3$, $n \geq 3$.
4. P. 469: 9. (12%)
5. P. 469: 12. (12%)
6. P. 470: 24. (12%)

(For each problem, you need to show the detailed computation, not only the answer.)