# MTH 9831 Assignment 10 (11/22/2018 - 11/28/2018).

(1) (Asian option, zero interest rate) Exercise 7.8.

(2) (Floating strike Asian option) Assume the BSM model ($r \neq 0$). Consider the floating strike Asian call option with payoff at time $T$ given by

$$\left( \frac{1}{c} \int_{T-c}^{T} S(t)\, dt - S(T) \right)_+ .$$

Follow the methodology described in lecture notes or in Shreve II, pp. 324-329 to derive an analog of Theorem 1.1 on p. 4 of Lecture 10 (Theorem 7.5.3 in Shreve II) for this option. (Hint: the game here is to find explicitly the process $\gamma(t)$ and the portfolio process $X(t)$. The rest, as you will see, is just the repetition of the calculations done in the lecture.)

(3) (Solving the linear complementarity conditions) Exercise 8.3.

(4) (Perpetual American put paying dividends) Exercise 8.5 (i), (ii), (iii) only.