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## MATA32 – Calculus for Management I

### Problem Set 4 (due February 4, 2010)

READ: 1.5, 5.2, first half of 5.4 (pgs. 208-211).

PROBLEMS:

**Section 1.5** # 4, 6, 8, 10

**Section 5.2** # 2, 3, 4, 6, 13, 15–18, 22

**Section 5.4** # 5–8

**Extra Problem:** Suppose you borrow \$10,000 from your parents for the purchase of a car, and you promise to pay it back according to the following schedule:

Payment Schedule:  $\left\{ \begin{array}{l} \$1000 \text{ at the end of the first year;} \\ \$4000 \text{ at the end of the third year; and} \\ \text{the rest at the end of the fifth year.} \end{array} \right.$

As we discussed in lecture, if you had not borrowed the money, it would have been invested, with annual returns of 10%... so if you want to pay your parents back fairly, you will owe them more than \$10,000 in total. If you pay according to the schedule outlined above, how much should you pay your parents *in total* if you want to fairly settle your debts?