Economics 051
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Problem Set 3: How to buy a car
(Understanding the value of money received at different points in time)

Your rich uncle has decided to get you a car to get you to and from Carolina on holidays – if you can choose the least expensive way to obtain it.

He's provided you with the attached flyer for a new Kia Soul. He has promised to contract for the car if you are able to derive the least-cost way to purchase it (in present-value terms) and can explain your calculations clearly to him.

You have two tasks.
(1) Calculate the present value of the three streams of payments using a consistent methodology. Be sure to provide evidence (e.g., an Excel spreadsheet) of your calculations. Define present value in your answer, and provide a time line of cash flows under the three options.

(2) Write a one-page letter to your uncle explaining carefully how you did your calculations and what you have concluded about the least-cost way to obtain your car. Be sure to explain clearly why the approach you have used represents a fair method for comparing the three options. (For example, how have you made it possible to compare leasing to buying a car?) The one-page upper limit will be strictly enforced.   Remember, though, that your uncle likes to have things spelled out.   A short paragraph probably won't satisfy him.

Good luck!

For Sale: 2010 Kia Soul
Price: $13300

Payment: three options.

Option A: you pay today, but you get $1500 cash rebate.
Option B: 0 percent APR financing over 36 months
Option C: 36-month lease at $240/month.

Expected resale value after three years: $5500