In Class Exercises (ICE) - 11/17/00

The life of a foraging squirrel is not an easy one - it is full of complicated decisions. One decision that squirrels have to make is how much energy they should spend on foraging. In order to find nuts to eat, a squirrel has to expend energy. The number of calories (i.e. C(q)) that the squirrel has to expend is given by the function,

$$C(q) = 10 + 0.06q^3.$$

On the other hand, the squirrel gets 30 calories from every nut that it finds.

- ***Find a formula that gives the net energy that the squirrel obtains if it finds and eats q nuts.***

- ***If the squirrel is trying to get as much energy as it possibly can (e.g. it might be preparing for the lean months of winter), how many nuts should the squirrel try to collect each day?***