Economics 152
Sample Problems for Chap. 5
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1. A firm wishes to establish a wage

$w= a+bE,$

where E is worker effort and a and b are to be chosen by the firm. The worker maximizes utility given by

$U= w-2E^2$ (which is to say the worker's cost of effort is $2E^2$.)

Each unit of effort generates 6 units of output which can be sold for $2 per unit. Assume the workers' utility must be at least 0 for him to be willing to accept the job.

a. Calculate the workers choice of effort E* and the profit-maximizing values of a and b.

b. Calculate the firm's profit, given this optimal wage schedule.

c. On the same graph, plot the line that represents the firm's wage offers as a function of effort, a*+b*E, and plot the worker's cost of effort C(E) as a function of effort.

d. Calculate the numeric value of workers utility at different effort levels of effort: E*, E*-1, and E*+1.