

Abbreviated Answers to Problem Set #8

1. Net social cost = $\$330 \cdot 60 - \frac{1}{2} \cdot 30 \cdot 60 = \$18,900$.
2. A. \$2000
B. \$1,038
C. Net present value of no college option. Use formula from class handout with $r = .05$, $T = 44$, and $B = 37,300$ to calculate net PV = \$658,821.

Net PV of college option: First calculate PV of tuition costs. Use formula from lecture with $r = .05$, $T = 4$, and B (in this case cost) of \$10,000. The PV of tuition costs is = \$35,459.50. Now calculate PV of salary benefits. Note that you do not start earning the salary until after 4 years of college. Thus, multiply your answer from the formula from part II-D (with $r = .05$, $T = 40$ and $B = \$53,700$) by $1/(1.05)^4$. The PV of salary is: \$758,073. Netting out tuition costs, the net present value is \$722,613. Thus, going to college has a higher net present value.

3. The best comparison is between B and D since education and experience are the same. The implied value of life is:

$$1,000/(1/8000) = \$8,000,000.$$

4. $Q = 4$.
5. See MBN Ch. 1.