Cost/Benefit Worksheet

1. Suppose you have a 0.5% chance of a single power outage lasting more than a few seconds in any given year. The expected loss as a result of personnel not being able to work is $25,000, and the cost of recovery (handling reboots and disk checks) is expected to be another $10,000 in downtime and personnel costs. Thus, the expected loss and recovery cost per year is (25000+10000) x .005 = $175. If the cost of a UPS system that can handle all your needs is $150,000 and it has an expected lifetime of ten years, then the cost of avoidance is $15,000 per year.

   a. What is the net cost benefit?
   b. What is the cost benefit ratio?

2. As another example, suppose that compromise of a password by any employee could result in an outsider gaining access to trade secret information worth $1,000,000. There is no recovery possible, because the trade secret status would be compromised, and once lost cannot be regained. You have 50 employees who access your network while traveling, and the probability of any one of them accidentally disclosing the password (for example, having it "sniffed" over the Internet) is 2%. Thus, the probability of at least one password being disclosed during the year is 63.6%. The expected loss is (1000000+0) x .636 = $636,000. If the cost of avoidance is buying a $75 one-time password card for each user plus a $20,000 software cost from Smart Cards R Us, and the system is good for five years, then the avoidance cost is (50*75 + 20000) / 5 = $4750 per year.

   a. What is the net effect of the cost benefit?
   b. What is the cost benefit ratio?

3. If the cost of avoidance might also include buying a competing system that includes an $80 one-time password card for each user plus $17,500 software cost from The Pass, and the software is good for five years, then the avoidance cost is (50*80+17,500)/5 = $4,300 per year.

   a. What is the cost benefit ratio?
   b. Which option is most cost efficient; Smart Cards R Us or The Pass?