Be sure to show the calculations that lead to your answers.

1. Fill in the blank:

   (a) If two events are mutually exclusive, the chance that one or the other will happen is the \underline{ } of their individual chances.

   (b) If two events are independent, that chance that both will happen is the \underline{ } of their individual chances.

2. A fair coin is flipped 7 times. What are the chances that it will land heads up 4 times?
3. On consecutive hour exams in a chemistry course, the means and SDs were $\mu_1 = 70$ and $SD_1 = 10$ for the first test and $\mu_2 = 80$ and $SD_2 = 15$ for the second test. The correlation coefficient for the data was $r = .5$. What are the chances that a student who scored 75 on the first test will score 75 or above on the second test?