Kerry Ojakian's MTH 23.5 Class
Class Assignment #12

Calculate the following where A, B, C are events.

1. Suppose $P(A) = 30\%$, $P(B) = 15\%$, and $P(A \text{ and } B) = 5\%$. Find $P(A \text{ or } B)$.

2. Suppose $P(A) = 0.2$, $P(B) = 0.4$, and $P(A \text{ and } B) = 0.1$. Find $P(A \text{ or } B)$.

3. Suppose $P(A) = 0.2$, $P(B) = 0.4$. Also A and B are disjoint events. Find $P(A \text{ or } B)$. Find $P(A \text{ and } B)$.

4. Suppose $P(A) = 50\%$, $P(B) = 75\%$. Why is it not possible that A and B are mutually exclusive?

More questions ...

5. If events A and B are mutually exclusive, can you determine $P(A \text{ or } B)$? can you determine $P(A \text{ and } B)$? If so, what is each?

6. Suppose X and Y are independent events and $P(X) = 1/4$ and $P(Y) = 2/3$. What is $P(X \text{ and } Y)$?

7. Suppose you flip a fair coin 4 times. What is the probability of all heads?

8. Suppose you flip a fair coin 4 times. What is the probability of alternating heads/tails? (be careful ...)