2006 Middlementary Math Bonanza Probability Test Excerpt

- 1. When three fair coins are flipped, what is the probability that all three land heads up?
- 2. When two cards are drawn from a standard 52-card deck, what is the probability that the two cards are of equal rank (e.g. two Jacks)?
- 3. When three standard dice are rolled, what is the probability that the product of the numbers shown on their upper faces is eight?
- 4. If the probability of Doug doing his homework is $\frac{1}{2}$, the probability that Doug passes his test is $\frac{3}{5}$, and the probability that he does both is $\frac{2}{5}$, what is the probability that Doug does his homework but does not pass his test?
- 5. A bag contains five red, three white, and seven blue marbles. If two marbles are randomly drawn from the bag, what is the probability that both marbles are red?