

**Math 102**

**Test 2 Model**

**March 18, 2010**

- 1. Problem of the Points – Blaise lacks 3, Pierre lacks 1, Christian lacks 2, when the game ends prematurely. How are they to split the pot? Show your work.**
- 2. Draw the probability tree for the following game: A six-sided die is tossed. If it comes up 1,2, or 3, Sue wins. If it comes up 4 or 5, Kay wins, and if it comes up 6, Linda wins. The die is tossed until someone wins 2 times. Use your tree to determine the probability that Kay wins the game.**
- 3. The chance that the Yankees win any given baseball game they play is 0.6. Suppose the Yankees play the Phillies 4 times. What is the probability that the Yankees win a) all four games, b) 3 out of the 4, c) 2 out of 4, d) 1 out of 4, e) none of the games.**
- 4. Sum the following series:  $5 - 10/3 + 20/9 - 40/27 + \dots$**
- 5. Find average and instantaneous velocities on a graph – or sketch a graph that has specified average and instantaneous velocity behavior.**
- 6. Find the equation of the tangent line to  $y = f(x) = 5x^3 - 12x^2 + 10x - \sqrt{x} - 8$  at  $x=1$ .**
- 7. Wildcard Problem about Probability or Calculus.**