Stat13 Homework 3
http://www.stat.ucla.edu/~dinov/courses_students.html

Suggested Solutions

**Problem 1: (30 points total)**
1) $n=11$, $p=4\%$ (2 points)
2) three conditions: (P206 in our textbook)
   a) two outcomes (2 points)
   b) different object has the same probability (2 points)
   c) different objects are independent. (2 points)
3) yes (2 points)
4)

   a) $\Pr(X = 0) = \binom{11}{0} (4\%)^0 (1 - 4\%)^{11} = 63.82\%$ (5 points)

   b) $\Pr(X = 2) = \binom{11}{2} (4\%)^2 (1 - 4\%)^9 = 6.09\%$ (5 points)

   c) $\Pr(X \geq 3) = 1 - \Pr(X = 0) - \Pr(X = 1) - \Pr(X = 2) = 0.83\%$ (5 points)

   d) $\Pr(2 \leq X \leq 5) = \Pr(X = 2) + \Pr(X = 3) + \Pr(X = 4) + \Pr(X = 5) = 6.92\%$ (5 points)

**Problem 2: (15 points total)**
1) $12\%$ (3 points)
2) $29\% \times 29\% = 8.41\%$ (4 points)
3) $20.79\%$ (4 points)
4) $34.1\%$ (4 points)

**Problem 3: (15 points total, 5 points each)**
1) $150 / 275 = 54.55\%$
2) $37 / 275 = 13.45\%$
3) $(40+53+26+6+37+11) / 275 = 62.91\%$