

3. (15 points) An urn contains 40 white balls and 60 black balls. A ball is drawn with replacement 100 times. What is the probability that a white ball appeared at least 45 times? (Use continuity correction)

4. (10 points) If X is a normal variable with mean 2 and variance 9, find the probability density function for $Y = -X^3$. Be sure to specify the range of the new random variable Y .

