1. [10 points] (taken from question 3.6 on p. 102) A box contains 9 white and 7 red balls. Sample 6 times without replacement. What is the probability that the first and fourth balls are white given that you picked exactly 4 white balls?
1. 

\[
\frac{(9)_4(7)_2(\frac{4}{4})}{(9)_4(7)_2(\frac{9}{4})} = \frac{\binom{4}{2}}{\binom{9}{4}}
\]