# Math 153 - Quiz 7 

October 20, 2016
Name $\qquad$
Score $\qquad$

Show all work to receive full credit. Supply explanations when necessary.

1. (6 points) A number of adults were asked about a stand-up comedy performance they attended.

Thought show was very funny Did not think show was very funny
Older than 30 years old 3272 $\begin{array}{lll}\mathbf{3 0} \text { years old or younger } & 56 & 126\end{array}$

One of the survey participants is selected at random.
(a) What is the probability that the person is older than 30 or thought the show was very funny?
(b) What is the probability that the person thought the show was very funny given that the person is older than 30 ?
(c) Are the show attendees attitudes about the "funniness" of the show independent of age?
2. (4 points) Suppose $A$ and $B$ are events such that $P(A)=0.28, P(B)=0.36$, and $P(A \cup B)=0.50$. Find $P(B \mid A)$. Are $A$ and $B$ independent?

