Math 206 - Quiz 2
January 28, 2015

Name key

Score _____

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

1. (1 point) Three marbles, numbered 1, 2, and 3, are placed into a jar. Two marbles are selected *without replacement*. The selections are recorded as ordered pairs such as $(2, 1)$. What is the sample space for this experiment?

$\{(1,2), (1,3), (2,1), (2,3), (3,1), (3,2)\}$

2. (1 point) Is your sample space above a uniform (equally-likely) sample space?

Yes. Each outcome is equally likely.

3. (1 point) Based on your sample space above, what is the probability of obtaining the two marble pair $(2, 1)$?

$P(\{(2,1)\}) = \frac{1}{6}$

4. (1 point) Is your probability a theoretical or experimental probability? Explain.

Theoretical, it was obtained by counting equally likely outcomes.

5. (1 point) Would your sample space change if the selections were made *with replacement*? Explain.

Yes. Then the outcomes $(1,1)$, $(2,2)$, and $(3,3)$ would also be possible.