

Name _____

Student Number _____

STA107H5S Quiz 1A

1. (2 marks). An experiment consists of rolling 2 dice and adding up the sum of their face-up sides. State the sample space of the experiment.

$S = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$

2. (2 marks) Question 2. Let A be the event: "the sum of the sides of the dice are less than or equal to 3". state the sample points that are in the event and find the probability of the event occurring.

$A = \{2, 3\}$ $P(A) = 3/36$

3. (3 marks) Question 3. Recall two events are said to be mutually exclusive if $A \cap B = \phi$. Let B be the event "the sum of the sides of the dice are greater than 3". Is A and B mutually exclusive? Explain.

$A = \{2, 3\}$, $B = \{4, 5, 6, 7, 8, 9, 10, 11, 12\}$, $A \cap B = \phi$, so mutually exclusive

Food for thought. Suppose the experiment is changed so instead of the sides being added together, they are now multiplied. How does this change the sample space of the experiment? **You do not have to answer this question, it is not worth any marks**

4. (3 marks) Question 5. Let A and B be events in a sample space such that $P(A) = 5/10$, $P(B) = 4/10$, and $P(A \cap B) = 3/10$. Find $P(\bar{A} \cap \bar{B})$

4/10