

Math 55 Quiz 6
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Name: _____

1. You roll 2 fair six-sided dice. Let A be the event that the first die is a 3. Let B be the event that the sum of the dice is 7. Let C be the event that the first die is odd. True or False? You **must** justify your answer. (*2 points each*).

(a) A and B are independent.

(b) A and C are independent.

(c) B and C are independent.

2. There are two boxes. Box #1 contains 2 white balls and 3 blue balls. Box #2 contains 4 white balls and 1 blue ball. Lisa selects a ball by first picking a box at random, and then selecting a ball from this box at random. What is the probability that Lisa picked a ball from Box #1 if she selected a blue ball? (*2 points*).

3. A coin is biased so that the probability a head comes up when it is flipped is 0.4. What is the expected number of heads that come up when it is flipped 10 times? (*2 points*).