

Please write ***Your name:*** _____

Show all work. You should either write at a sentence explaining your reasoning, or annotate your math work with brief explanations. There is no need to simplify, and no calculators are needed.

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(1) Suppose we randomly choose 4 pens out of 7 black pens and 5 red pens. What is the probability that all 4 chosen pens are red?

(2) Suppose we randomly choose 3 pens out of 2 black pens, 2 red pens, and 2 blue pens. What is the probability that all three pens are of different colors?

(3) What is the probability that, if we roll 2 dice, the sum is 10?

(4) Suppose that you are given a die and asked to roll it twice. What is the probability that the value of the second roll will be less than the value of the first roll? Hint: begin with considering the event that the two rolls will be the same.

(End of the quiz)