CB1501012-062 **(DO NOT INCLUDE YOUR NAME)**

HW #[1-9]

**Problem 1 (example)**

**Answer:**

|  |
| --- |
| **.** |

In general, we want to see **both** a raw answer like and the explicit answer of .

**Explanation:**

We need to get exactly DABC, and there are ways to arrange those letters, so we have a probability of getting a random permutation in that order.

(the above symbol to the right marks the end of the explanation/proof. **Remember to start each new problem on its own page.** Do **not** include the problem statement in your solution as it takes up too much space and we already know the problem statement.)

**Problem 2 (multi-part example, and large numbers)**

**Part (a)**

**Answer:**

|  |
| --- |
|  |

(Please give the raw formula you used, **and** its value, possibly in scientific notation if it is too large).

**Explanation:**

Explain here.

**Part (b)**

**Answer:**

|  |
| --- |
|  |

**Explanation:**

Explain here.

**Problem 3 (proof problem example)**

**Statement (do not include)**: Prove Bayes Theorem. For any events with , we have

**Proof:**

**(Short way)**

**(Long way)**

First, by the chain rule, we have

Switching the roles of and gives

Since , we can set them equal to get

But dividing by gives Bayes Theorem