Math 153 - Quiz 6

March 1, 2018

Name key

Score _____

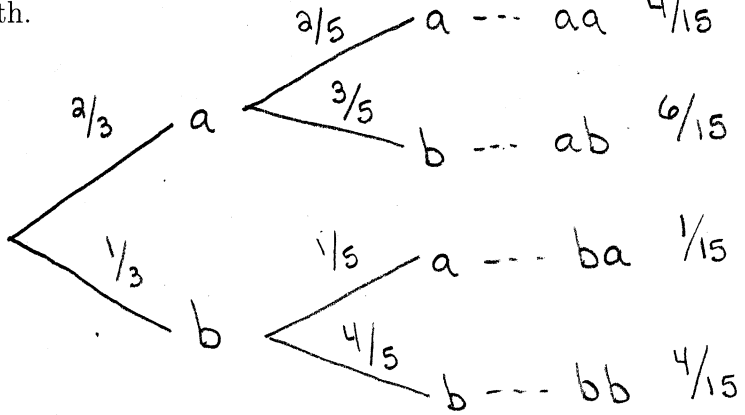
Show all work to receive full credit. Supply explanations when necessary.

1. (4 points) A letter is selected at random from the first box and placed into the second box. Then a letter is selected at random from the second box.

a	a	b

a	b	b	b

Sketch the complete tree diagram for the experiment. Determine the probability of each path.



2. (3 points) A jar contains 3 quarters, 5 dimes and 2 nickels. A single coin is selected at random. Let A be the event of selecting at least 10 cents, and let B be the event of selecting a quarter.

(a) Determine $P(A|B)$. = 1

≥ 10¢ | 25¢

(b) Determine $P(B|A)$. = 3/8

25¢ | ≥ 10¢ Q,D

(c) What are the odds against A? $P(A) = \frac{8}{10} \Rightarrow$ Odds against are $\frac{2}{8}$ or 1:4

3. (3 points) Three letters are selected at random without replacement from the word EYJAFJALLAJOKULL. What is the probability of spelling the word ALL (in order).

3/16 A — 4/15 L — 3/14 L

$\frac{3}{16} \times \frac{4}{15} \times \frac{3}{14} = \frac{36}{3360}$

$\approx 1.07\%$