BASIC PROBABILITY

LAST NAME	FIRST NAME	DATE

1 (6 points). You should see on the class board a two-way table similar to this one:

	Light	Dark	Total
0			
1			
2			
3+			
total			

Go up to the board, and depending on the color of your hair and the number of siblings you have, make a single mark in the appropriate cell of this table.

Once the common table is complete, fill out the table above with corresponding counts, as well as row and column totals.

Suppose now that your instructor chooses a single student in your class completely at random.

(a) How likely is a random student to have light hair?

(b) How likely is a random student to have no siblings?

(c) How likely is a random student to have 2 or fewer siblings?

(d) How likely is a random student to have dark hair and exactly 1 sibling?

(e) How likely is a random student to have light hair and more than 1 sibling?

2 (4 points). Circle those and only those numbers that represent probabilities.

$$0.85 \qquad -0.1 \qquad \frac{8}{7} \qquad \frac{7}{8} \qquad 0.999 \qquad -1 \qquad 0 \qquad 1$$

3 (6 points). A sample of cows yields the following contingency table.

	Dairy (D)	Meat (M)	Total
Spotted (S)	18	12	
Brown (B)	14	5	
White (W)	3	0	
total			

The experiment consists in choosing one of these 52 cows at random. For each of the following events, write it down formally, and compute its probability.

(a) The cow is brown.

(b) It's a dairy cow.

(c) It's a meat cow with spots.

(d) Either a brown or a dairy cow is chosen.

(e) The cow is not white.

(f) Are events "White" and "Meat" mutually exclusive? Explain.

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