

# Enrichment Problems for Part 2

(due November XX)  
Math 125 *Kovitz* Fall 2020

1. Find the exact chance that it results in 5 or more heads.

(Hint for shortcut. First find the chance of exactly 5 heads. Then think about the three cases: less than 5, exactly 5, and more than 5 heads.)

2. (a) Find the exact probability that the total number of heads is odd.

Prove that your answer is correct. You may do this by a simple logical argument, or by using some probability formulas.

- (b) A fair coin is tossed 16 times. Prove that the chances of getting 9, 11, 13, and 15 heads all add up to exactly 25%.

3. True or false, and explain:

If something has probability 1,000%, it is sure to happen.