Name_____ Date_____

Answers

Part 1

4. Answers will vary. Sample answers:

   a) I got 5005 heads and 4995 tails.

   b) The experimental probability of tossing heads was $\frac{5005}{10000}$, or 0.5005.

   c) I think the more coin tosses the program does, the closer the experimental probability will get to the theoretical probability.

   d) My prediction was correct.
   For 100 000 repeats, the program output 49 915 heads and 50 085 tails.
   So, the experimental probability of heads is 0.49915, which is 0.000 85 less than 0.5. This is closer than my result in part b), which was 0.005 greater than the experimental probability.

Part 2

5. b) Answers will vary. For some students the experimental probability will be closer than their result for 100 000 tosses in Part 1, but for others, it may not be.
   Sample answer:
   When I did 1 000 000 repeats, the program output 499 909 heads and 500 091 tails. The experimental probability of heads is 0.499 909. I expected that it would be really close to 0.5 and it is.

Answers (cont'd)

Additional Challenge:

Sample code and output:

Mathology 7, *Coding*
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