HW9.26

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Problem 1

A probability experiment consists of flipping a coin and then rolling a standard 6-sided die.

(a) Identify the sample space

There are two sample spaces here - C -> All the possible outcomes for flipping a coin - D -> All the possible outcomes for rolling a die

- C = {H,T}
- D = {1,2,3,4,5,6}
- |C| = 2
- |D| = 6

(b) Write the event, "the coin is a tail and the die roll isn't a 5" as a set.

- E_1 = {T}
- E_2 = {1,2,3,4,6}

(c) What is the probability of the event in part (b)? Assume all outcomes are equally likely.

- p(E_1) = 1/2
- p(E_2) = 5/6

d) What is the probability that the coin is a head and the die roll is odd?

- $p = 1/2$
- $p = 3/6$