1. 8 points Suppose that we have a three-sided coin, with sides labelled heads (H), tails (T), and stomach (S). We toss the coin.

(a) 2 points What is the event space corresponding to this experiment?

Assume that the $P\{H, S\} = 7/8$ and $P\{H\} = 1/4$.

(b) 3 points What is $P\{T\}$?

(c) 3 points What is $P\{S\}$?

2. 2 points Evaluate

$$\int_0^ax^2\,dy.$$
Answers

1. (a) \( \Omega = \{H, T, S\} \).
   
   (b) \( \mathbb{P}\{T\} = \frac{1}{8} \).
   
   (c) \( \mathbb{P}\{S\} = \frac{7}{8} - \frac{1}{4} = \frac{5}{8} \).

2. 
   \[ \int_0^x y^2 \, dy = \frac{x^3}{3}. \]