

Mathematics 170B – HW1 – Due Friday, April 6, 2012.

Problems 1,2,3,7 on page 246.

A_1 . A coin with probability p of heads is tossed until the first head occurs. It is then tossed again until the first tail occurs. Let X be the total number of tosses required.

(a) Find the PMF of X .

(b) Find the mean and variance of X .

A_2 . Suppose X has the $N(0, 1)$ distribution. Find the PDF of $Y = 1/X^2$.