

INTRODUCTION TO CALCULUS

MATH 1A

UNIT 30: WORKSHEET

Statistics

1: Verify that the function $f(x) = \frac{1}{x}$ is a probability density function on $[1, e]$. As usual we assume that f is zero outside the interval $[1, e]$.

2: Find the expectation

$$m = \int_1^e x f(x) dx$$

of this distribution function f .

3: Find the variance

$$\int_1^e x^2 f(x) dx - m^2$$

of f .