

MATH 134A Review: Expectation and Variance

1. Let X be a random variable that takes value 1 with 100% probability. What is the expectation of X ? What is the variance of X ?
2. Let X be a random variable that takes value -1 with 50% probability and value $+1$ with 50% probability. What is the expectation of X ? What is the variance of X ?
3. Let X be a random variable that takes value 0 with 99% probability and value 100 with 1% probability. What is the expectation of X ? What is the variance of X ? Hint $(99)^2 = (100-1)^2 = 10000 - 200 + 1 = 9801$.