1. Problem 6.4.1

2. Suppose the random variable $X$ has a $t$ distribution with $n$ degrees of freedom. For what values of $n$ is the variance finite/infinite. Derive a formula for the variance of $X$ (when it is finite).

3. 6.4.4. Also, answer the question if the random variable $T$ follows a standard normal distribution $N(0,1)$. Comment on the differences and why that should be.

4. Problem 8.10.10.

5. Problem 8.10.13.