



Spring 2017

## Week 12

# Reading and Practice

### Required Reading

- Course Notes Ch 21 and 22
- Pitman Sections 6.3, especially pages 417-421.

### Practice Problems

Pitman  $x.y.z$  means Exercise  $z$  of Section  $x.y$  and  $x.rev.z$  means Exercise  $z$  of the Review Exercises at the end of Chapter  $x$ .

- **Minimal Practice**

- Pitman's text doesn't cover mgf's. Between lecture and homework, Prob140 covers pretty much all the mgf's that can be reasonably computed at this level. For additional practice, compute the mgf of the uniform distribution on  $(0, 1)$ ; to see that you got the right answer, use it to calculate the first two moments and check that they agree with the corresponding integrals.
- Pitman 6.3.3, 6.3.8. Notice that 6.3.15 covers much of Chapter 22 of our Course Notes.

- **Further Practice**

- Calculate the mgf of the geometric ( $p$ ) distribution on  $\{1, 2, 3, \dots\}$ . That's the distribution of the number of tosses till the first head. Use it to find the expectation; that will indicate whether you got the answer right.
- 6.rev.9. Try conditioning on  $Z$ .