



Week 11

Reading and Practice

Spring 2017

Required Reading

- Course Notes Ch 20
- Pitman Sections 5.3 (pages 361-363 have a lovely trigonometric proof of why sums of independent normals are normal, but we'll be using another method in Week 12).

Recommended Reading, though you don't need it for homework this week, is Pitman Section 5.4 through page 375. If you aren't intimidated by notation, also read Example 2 on page 376. It's like magic, and is much easier than it looks.

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 5.3.3, 5.3.4, 5.3.9, 5.rev.16 (use what you know about sums of squares of standard normals)
- **Further Practice**
 - 5.rev.22 (crucial: a normal $(0, \sigma^2)$ variable is σ times a standard normal), 5.3.15 (parts d-f are on the next page; most of this problem was done in class; for part (b) use the recursion for the gamma function that you derived in HW 10 and just write the terms for $n = 3, 5,$ and 7 ; in part (f) ignore skewness)