

Due: Wednesday, September 13

1. Exercise 1.5.J in the text.
2. Consider (x_1, x_2, \dots) and (y_1, y_2, \dots) . Show that the new sequence $(x_1, y_1, x_2, y_2, x_3, \dots)$ converges to a number L if and only if the two original sequences both converge to L .
3. Exercise 2.3.G in the text.
4. Exercise 2.4.F in the text.

For your reference, the Binomial Theorem is stated in Exercises 1.5.D and 1.5.I; you can use it without proving it.

5. Exercise 2.4.J in the text. Perhaps I should also point out that the set S in the exercise is closed under addition, subtraction, and multiplication by integers.