

- Craps*: (a) Compute the *exact* probability of winning a game of craps.
- (b) Suppose instead of throwing two ordinary dice, one got clever and threw a single 12-sided die. Would this change anything? Explain.
- (c) Modify the simulation I passed out in class to cover the case of craps with a single 12-sided die. Run the new simulation. Does it support your contention in part (b)?

§9.3: (a) # 1.

- (b) Let D be the unit circle, and let $R(\theta)$ denote rotation through an angle θ . Suppose that θ is not commensurate with 2π . Prove that the “orbit”

$$\{R(\theta)^k(x) \mid k = 0, 1, 2, \dots, \}$$

of any $x \in D$ is dense in D . What happens if θ is a rational multiple of 2π ?

§9.4: #2, p. 445; #4, p. 446.

END!