

## 9.1 Understanding the Normal Distribution

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### Answers

1. Uncommon (13.5%)
2. Uncommon (13.5%)
3. Likely (68%)
4. Common (34%)
5. Rare (apx 2.5%)
6. Very Rare
7. Very Rare
8. Likely (68%)
9. Uncommon (13.5%)
10. Likely
11. Rare
12. Rare

## 9.2 Empirical Rule

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### Answers

1. 83.35%
2. 4.7%
3. 16%
4. 2.5%
5. 95%
6. 27%
7. 2.5%
8. 47.5%
9. 2.5%
10. 68%
11. 34%
12. .15%
13. 95%
14. 47.5%
15. 99.85%

## 9.3 Z-Scores

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### Answers

1. -42.84
2. The value is 3.4 SD's to the right (above) the mean
3. 0.62
4. 105.99
5. 2.37
6. The value is 3.8 SD's to the left (below) the mean.
7. 0.39
8. 77.52
9. 51
10. 1.19
11. 133.8
12. 1.01

## 9.4 Z Scores II

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### Answers

1. 97.83%
2. 2.17%
3. 2.44%
4. 97.56%
5. 53.59%
6. 49.2%
7. 95.64%
8. 1.32%
9. 11.7%
10. 99.66%
11. 99.99%
12. 90.82%
13. 11.12%
14. 5.94%

## 9.5 Z-scores III

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### Answers

1. .16%
2. 95.5%
3. 9.07%
4. 82.41%
5. 46.41%
6. 50.08%
7. 55.56%
8. 2.52%
9. 10.71%
10. 23.76%
11. .38%
12. 32.11%
13. 25.57%
14. 31.01%

## 9.6 The Mean of Means

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### Answers

1. 22.58
2. 15.53
3. 342.46
4. 1.08
5. 251.16
6. 70.98
7. 7.56
8. 44.42
9. 8.09
10. 45.83
11. Both are 3.5
12. 2.5
13. Both are 3.0
14. 3.0
15. 2.5

## 9.7 Central Limit Theorem

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### Answers

1. 0.80%
2. 50%
3. 99.38%
4. A sample size  $\geq 30$
5. 0.80%
6. 84.13%
7. 0.73%
8. 5.58%
9. 15.87%
10. 1.60%

## 9.8 Approximating the Binomial Distribution

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### Answers

1. 5.94%
2. Loading...
3. Yes.  $10.14 \geq 10$  and  $15.86 \geq 10$
4. 2.56
5. 11.9%
6. Yes, it meets the criteria for the rule of thumb.
7.  $n \cdot p$
8. No  $7.04 < 10$
9. No  $8.1 < 10$
10. 85.77%
11. Based on 32 games, you should expect to win \$15.68
12. Yes.  $10.92 \geq 10$  and  $31.08 \geq 10$
13. No  $9.5 < 10$
14. Yes  $17.4 \geq 10$  and  $11.6 \geq 10$