

AP Statistics

Review Ch. 2 Solutions

1. d   2. b   3. d   4. b   5. d   6. c   7. e   8. c   9. a   10. d   11. e   12. d   13. d   14. c   15. b  
16. a   17. a   18. b   19. e   20. b   21. c   22. c   23. d   24. d   25. c

26 a. Using the empirical rule - .15%, using your calculator - .135%

b. Using the empirical rule or calculator – 84<sup>th</sup> percentile

c. 68 inches because the first quartile has .25 area to the left.

27. a. .4375                      b. .1875                      c. .0625

28. .0668

29. Beta = .6246                  Gamma = .495                  Alpha should order from Beta because the probability that the breakaway force will be between 3 and 5 is higher.

30. Math concept scores are approximately normal because the normal probability plot is approximately linear. Vocabulary scores are not normal because of the S-shape of its normal probability plot.

31. a. Male body temperatures could be approximately normal since the boxplot is symmetric, female body temperatures are not normal since they have outliers.

b. The normal probability plot is approximately linear.                  c. .1968

32. a. Joey:  $z = .857$     Carla:  $z = .753$ , Joey had the more impressive performance because he jumped a higher number of standard deviations above the mean.

b. Joey: 80<sup>th</sup>, he jumped farther than 80% of all male long jumpers at State College since 1973

Carla: 77<sup>th</sup>, she jumped farther than 77% of all female long jumpers at State College since 1973

33. a. .15%                      b. 257.184 days

34. a. 2004 – about 1:46, 2008 – about 1:48

b. 2004 – about 1:47 – 1:45 = 2, 2008 – about 1:49 – 1:46 = 3

c. The 220-meter freestyle time slowed between 2004 and 2008. However, the variability of times was a bit larger in 2008 than in 2004.