School786 AN ONLINE SCHOOL

Name: Due Date: Teacher: Parent Sign:

Reading box plots

1. A box plot has min = 2, Q1 = 4, median = 6, Q3 = 8, max = 10. What is the IQR?

2. A box plot has min = 5, Q1 = 7, median = 9, Q3 = 12, max = 15. What is the range?

3. A box plot shows min = 0, Q1 = 3, median = 5, Q3 = 7, max = 9. What is the median?

4. A box plot shows min = 10, Q1 = 12, median = 14, Q3 = 18, max = 20. What is the smallest value?

5. A box plot shows min = 1, Q1 = 4, median = 5, Q3 = 9, max = 12. What are the whisker endpoints (the smallest and largest data values)?

6. A box plot shows min = 8, Q1 = 9, median = 10, Q3 = 12, max = 20. What is Q3?

7. A box plot shows min = 3, Q1 = 5, median = 7, Q3 = 9, max = 11. How far is Q1 from the median?

8. A box plot shows min = 2, Q1 = 4, median = 6, Q3 = 6, max = 6. What is the IQR?

9. A box plot shows min = 0, Q1 = 2, median = 4, Q3 = 6, max = 10. What fraction (or percent) of the data lies between Q1 and Q3?

10. A box plot shows min = 1, Q1 = 2, median = 3, Q3 = 4, max = 5. Calculate the range and the IQR.

Constructing a box plot (find five-number summary and IQR)

11. Data: 3, 7, 8, 5, 12, 14. Give min, Q1, median, Q3, max, and IQR.

12. Data: 4, 8, 6, 5, 3. Give min, Q1, median, Q3, max, and IQR.

13. Data: 10, 12, 15, 20, 18, 16, 14. Give min, Q1, median, Q3, max, and IQR.

14. Data: 2, 2, 3, 5, 7, 9, 11, 13. Give min, Q1, median, Q3, max, and IQR.

15. Data: 1, 4, 6, 6, 6, 9, 10. Give min, Q1, median, Q3, max, and IQR.

16. Data: 5, 5, 7, 8, 9, 10. Give min, Q1, median, Q3, max, and IQR.

17. Data: 0, 1, 2, 3, 4. Give min, Q1, median, Q3, max, and IQR.

18. Data: 11, 13, 13, 14, 15, 16, 18, 20. Give min, Q1, median, Q3, max, and IQR.

19. Data: 6, 7, 7, 8, 12. Give min, Q1, median, Q3, max, and IQR.

20. Data: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20. Give min, Q1, median, Q3, max, and IQR.

Worked examples — creating a box plot (odd number of data points)

21. Data (7 numbers): 3, 5, 7, 9, 11, 13, 15. Find min, Q1, median, Q3, max, and IQR.

22. Data (7 numbers): 1, 2, 3, 4, 5, 6, 7. Find min, Q1, median, Q3, max, and IQR.

23. Data (7 numbers): 2, 4, 6, 8, 10, 12, 14. Find min, Q1, median, Q3, max, and IQR.

24. Data (7 numbers): 7, 8, 9, 10, 11, 12, 13. Find min, Q1, median, Q3, max, and IQR.

25. Data (7 numbers): 10, 11, 12, 13, 14, 15, 16. Find min, Q1, median, Q3, max, and IQR.

26. Data (7 numbers): 0, 1, 1, 2, 3, 5, 8. Find min, Q1, median, Q3, max, and IQR.

27. Data (7 numbers): 6, 6, 7, 8, 9, 10, 12. Find min, Q1, median, Q3, max, and IQR.

28. Data (7 numbers): 100, 102, 104, 106, 108, 110, 112. Find min, Q1, median, Q3, max, and IQR.

29. Data (7 numbers): 3, 3, 4, 4, 5, 6, 7. Find min, Q1, median, Q3, max, and IQR.

30. Data (7 numbers): 14, 15, 16, 17, 18, 19, 20. Find min, Q1, median, Q3, max, and IQR.

Worked examples — creating a box plot (even number of data points)

31. Data: 3, 4, 5, 6, 7, 8. Find min, Q1, median, Q3, max, and IQR.

32. Data: 1, 2, 3, 4, 5, 6, 7, 8. Find min, Q1, median, Q3, max, and IQR.

33. Data: 10, 20, 30, 40, 50, 60. Find min, Q1, median, Q3, max, and IQR.

34. Data: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20. Find min, Q1, median, Q3, max, and IQR.

35. Data: 5, 7, 9, 11, 13, 15. Find min, Q1, median, Q3, max, and IQR.

36. Data: 0, 0, 1, 1, 2, 2, 3, 3. Find min, Q1, median, Q3, max, and IQR.

37. Data: 21, 22, 23, 24, 25, 26. Find min, Q1, median, Q3, max, and IQR.

38. Data: 4, 4, 4, 5, 5, 6, 6, 7. Find min, Q1, median, Q3, max, and IQR.

39. Data: 12, 14, 16, 18, 20, 22, 24, 26. Find min, Q1, median, Q3, max, and IQR.

40. Data: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19. Find min, Q1, median, Q3, max, and IQR.

Interpreting box plots

41. Box A: min=2, Q1=4, median=6, Q3=8, max=10. Box B: min=1, Q1=3, median=5, Q3=7, max=9. Which box plot has the higher median?

42. Using the same Box A and Box B from Q41, which box plot has the larger IQR?

43. Box C: min=0, Q1=2, median=3, Q3=7, max=9. Is the distribution skewed left or skewed right?

44. Box C (from Q43) and Box D: min=5, Q1=7, median=9, Q3=11, max=13. Which box plot has the greater range?

45. Box E: min=0, Q1=1, median=2, Q3=3, max=10. Which value might be considered an outlier (the most suspicious value)?

46. Box F: min=2, Q1=4, median=5, Q3=6, max=9. Box G: min=1, Q1=3, median=5, Q3=8, max=12. Which box plot shows more variability (larger IQR)?

47. Box H: min=20, Q1=40, median=50, Q3=60, max=80. Which number is the median?

48. Box J: min=10, Q1=20, median=30, Q3=40, max=100. What is the IQR?

49. Box K: min=0, Q1=5, median=5, Q3=5, max=10. What is the IQR?

50. Box L: min=3, Q1=4, median=5, Q3=8, max=11. What fraction of the data is between min and Q1?