2. For the same box plot (min 2, Q1 5, median 9, Q3 13, max 18), what is the range?

3. Using the same five-number summary, which quartile contains the median, Q1-Q2 or Q2-Q3?

4. A box plot shows min = 10, Q1 = 12, median = 15, Q3 = 20, max = 23. Is the median closer to Q1 or Q3?

5. A box plot with five-number summary min = 0, Q1 = 4, median = 6, Q3 = 9, max = 12. Which part (lower whisker, box, upper whisker) is longest?

6. Given a box plot with min = 7, Q1 = 9, median = 12, Q3 = 14, max = 15, is the distribution skewed left, right, or roughly symmetric?

7. The five-number summary of exam times (in minutes) is min = 18, Q1 = 22, median = 25, Q3 = 30, max = 40. What is the middle 50

8. A box plot shows min = 3, Q1 = 5, median = 5, Q3 = 8, max = 11. What does it mean that the median equals Q1?

9. For a data set with five-number summary min = 4, Q1 = 6, median = 10, Q3 = 14, max = 16, which value marks the 75th percentile?

10. A box plot shows min = 1, Q1 = 2, median = 5, Q3 = 6, max = 20. Which value(s) could be considered unusual or potential outliers (by eye)?

Constructing box plots (11-20)

11. Given the data set: 3, 7, 8, 5, 12, 14, 21, 13, 18. Find the five-number summary (min, Q1, median, Q3, max).

12. Data: 4, 8, 6, 10, 12, 9, 7. Find the five-number summary.

13. Data: 15, 12, 18, 22, 17, 14, 16, 19. Find the five-number summary.

14. Data: 2, 2, 3, 5, 7, 8, 9, 10, 11. Find the five-number summary.

15. Data: 25, 30, 20, 22, 28. Find the five-number summary (note: odd number of points).

16. Data: 0, 5, 10, 10, 15, 20, 25, 30. Find the five-number summary.

17. Data: 1, 4, 4, 4, 5, 6, 10. Find the five-number summary.

18. Data: 100, 98, 102, 95, 110, 105, 101, 99. Find the five-number summary.

19. Data: 7, 14, 21, 28, 35, 42. Find the five-number summary.

20. Data: 6, 6, 7, 8, 12, 13, 14, 15, 18. Find the five-number summary.

Worked example: Creating a box plot (odd number of data points) (21-30)

21. Data (9 numbers): 11, 13, 15, 16, 18, 20, 22, 24, 26. Find the five-number summary.

22. Data (7 numbers): 2, 3, 5, 7, 9, 11, 13. Find the five-number summary.

23. Data (11 numbers): 4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13. Find the five-number summary.

24. Data (5 numbers): 14, 16, 18, 20, 22. Find the five-number summary.

25. Data (9 numbers): 30, 28, 25, 27, 26, 24, 23, 22, 21. Find the five-number summary.

26. Data (7 numbers): 40, 41, 42, 44, 45, 47, 50. Find the five-number summary.

27. Data (9 numbers): 1, 2, 2, 3, 4, 6, 8, 9, 10. Find the five-number summary.

28. Data (7 numbers): 100, 95, 90, 85, 80, 75, 70. Find the five-number summary.

29. Data (5 numbers): 3, 7, 11, 15, 19. Find the five-number summary.

30. Data (11 numbers): 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 20. Find the five-number summary.

Worked example: Creating a box plot (even number of data points) (31-40)

31. Data (8 numbers): 2, 4, 6, 8, 10, 12, 14, 16. Find the five-number summary.

32. Data (6 numbers): 3, 5, 7, 9, 11, 13. Find the five-number summary.

33. Data (10 numbers): 1, 1, 2, 3, 5, 8, 13, 21, 34, 55. Find the five-number summary.

34. Data (6 numbers): 50, 52, 54, 56, 58, 60. Find the five-number summary.

35. Data (8 numbers): 4, 4, 5, 6, 7, 9, 11, 13. Find the five-number summary.

36. Data (10 numbers): 12, 14, 15, 15, 16, 17, 19, 20, 22, 24. Find the five-number summary.

37. Data (6 numbers): 0, 0, 1, 2, 3, 8. Find the five-number summary.

38. Data (8 numbers): 33, 35, 37, 39, 41, 43, 45, 47. Find the five-number summary.

39. Data (10 numbers): 6, 7, 8, 9, 10, 11, 12, 13, 14, 15. Find the five-number summary.

40. Data (6 numbers): 21, 22, 23, 24, 25, 36. Find the five-number summary and identify any potential outlier using the 1.5 x IQR rule.

Interpreting box plots (41-50)

41. Box A has five-number summary: min = 10, Q1 = 12, median = 15, Q3 = 18, max = 20. Box B: min = 8, Q1 = 10, median = 14, Q3 = 17, max = 30. Which box has the larger range?

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

43. Which dataset (A or B) has a higher median?

44. Two classes take a quiz. Class 1 five-number summary: min = 50, Q1 = 65, median = 70, Q3 = 78, max = 90. Class 2: min = 40, Q1 = 60, median = 72, Q3 = 80, max = 88. Which class has students with the best (highest) typical scores? Explain using the median.

45. Given two box plots showing the ages of pets: Plot X median = 4, IQR = 1; Plot Y median = 6, IQR = 4. Which population has more varied ages?

46. A box plot for daily steps shows Q1 = 3000, median = 5000, Q3 = 8000. If a person has 10000 steps, are they inside the upper whisker or might they be an outlier? (Use the 1.5 x IQR rule: any point > Q3 + 1.5xIQR is an outlier.)

47. Two box plots compare times to finish a task. Box M is shifted to the left of Box N (all five-number summary values for M are smaller than N's). Which group finishes faster?

48. A box plot shows a very small box but very long whiskers. What does that say about the middle 50

49. A dataset's box plot has Q1 = 20, median = 25, Q3 = 30. If a new data value 100 is added, will the median necessarily change? Explain briefly.

50. The five-number summaries for two sets of test scores are: Set 1: min 30, Q1 50, median 60, Q3 70, max 90. Set 2: min 10, Q1 55, median 60, Q3 65, max 70. Which set is more consistent (less spread) in the middle 50