ALBERT

Name _____ Date _____

Dot Plots, Histograms and Box Plots Worksheet

Grade 6 · Common Core 6.SP.B.4

> Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

Practice

Builds the skill step by step.

1. Data: 2, 3, 3, 4, 4, 4, 5. If you make a dot plot, how many dots go above 4?

2. For the data 1, 2, 2, 3, 5, 5, 5, 6, which value has the tallest stack of dots in a dot plot?

3. Which display shows data in intervals, such as 0–9 and 10–19?

   A. A dot plot

   B. A box plot

   C. A line plot of single values

   D. A histogram

4. The histogram data in the table shows minutes students spent on homework. How many students spent 20–29 minutes?

Minutes	Students
0–9	3
10–19	7
20–29	10
30–39	4
40–49	1

5. Using the same table, how many students were surveyed in all?

Minutes	Students
0–9	3
10–19	7
20–29	10
30–39	4
40–49	1

6. Which five numbers make a box plot?

   A. Minimum, first quartile, median, third quartile, maximum

   B. Mean, median, mode, range, maximum

   C. Minimum, mean, median, mode, maximum

   D. First quartile, mean, third quartile, range, total

7. Data: 3, 5, 7, 9, 11. What are the minimum and maximum for a box plot?

8. Data: 3, 5, 7, 9, 11. What is the median that marks the line inside the box?

9. In the homework table, which interval has the fewest students?

Minutes	Students
0–9	3
10–19	7
20–29	10
30–39	4
40–49	1

A. 0–9

B. 40–49

C. 30–39

D. 10–19

10. Data: 6, 6, 7, 8, 8, 8, 9. How many dots does a dot plot of this data have in all?

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On Level

Grade-level practice.

1. Data: 2, 4, 5, 6, 8, 9, 12. Find the five-number summary.

2. Find the interquartile range (IQR) for the data in problem 1.

3. In the homework table, what percent of students spent at least 30 minutes?

Minutes	Students
0–9	3
10–19	7
20–29	10
30–39	4
40–49	1

A. 5%

B. 16%

C. 20%

D. 40%

4. Data: 10, 12, 15, 15, 18, 20, 22, 25. Find Q1, the median and Q3.

5. Ages: 11, 12, 12, 13, 13, 13, 14, 14, 15, 17. Sort them into intervals 10–11, 12–13, 14–15, 16–17 and give the count for each.

6. A box plot has a minimum of 20, Q1 of 30, a median of 35, Q3 of 50 and a maximum of 60. What is the range?

   A. 20

   B. 15

   C. 40

   D. 30

7. For the box plot in problem 6, what is the IQR?

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

9. About what fraction of the data is between Q1 and Q3 in a box plot?

   A. One half

   B. One quarter

   C. Three quarters

   D. All of it

10. A dot plot shows 1 dot at 2, 3 dots at 3, 4 dots at 4 and 2 dots at 5. Find the median.

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Challenge

Multi-step and word problems that stretch it.

1. Data: 18, 20, 22, 23, 25, 26, 30, 31, 40. Find the five-number summary and the IQR.

2. Which display would you choose to show 200 students' heights grouped by 5-inch intervals?

   A. A dot plot

   B. A box plot showing each student

   C. A histogram

   D. A table of every height

3. A box plot of test scores has Q1 = 72 and Q3 = 88. About how many of 40 students scored between 72 and 88?

4. Two box plots: Class A has median 80 and IQR 6. Class B has median 80 and IQR 20. Which class's middle half is more spread out?

5. A histogram has intervals 0–4, 5–9, 10–14 with heights 2, 6, 2. Which statement is true?

   A. It is skewed right.

   B. The distribution is symmetric.

   C. It is skewed left.

   D. Most values are in 0–4.

6. Data: 3, 3, 4, 6, 7, 8, 9, 9, 10, 11. Find Q1 and Q3.

7. Maya says a box plot's median line must be in the middle of the box. Use the data 1, 2, 3, 4, 10, 12, 14 to check her claim.

8. Using the homework table, what is the least possible number of minutes any student spent?

Minutes	Students
0–9	3
10–19	7
20–29	10
30–39	4
40–49	1

9. Scores: 60, 65, 70, 75, 80, 85, 90, 95. A box plot is drawn. What are the median and the IQR?

10. Which question can a dot plot answer that a histogram with wide intervals might not?

    A. What is the exact most common value?

    B. How many values are there?

    C. Is the data skewed?

    D. Where is the center roughly?