

Day 1-Math: Data Analysis-Mean, Median, Mode, Range

REVIEW VOCABULARY:

1. Mean: Average. Add all the data up and divide by the number of pieces of data in the set.
2. Median: Middle number when all data is put in order. If there are two middles, you find their average.
3. Mode: The number that occurs the most.
4. Range: The smallest number subtracted from the biggest number when the data is put in order.

Mean, Median, Mode, Range Examples:

Data Set: 1, 2, 3, 3, 3, 4, 5, 6, 7, 8

Mean: $1 + 2 + 3 + 3 + 3 + 4 + 5 + 6 + 7 + 8 = 42 \div 10 = 4.2$

The mean is 4.2

Median: The middle number is 3.5 because there are two middles. You must find the average of the two middles. $3 + 4 = 7 \div 2 = 3.5$

Mode: The mode is 3 because it occurs more often in the data set than any other number.

Range: The range is 7 because $8 - 1 = 7$.

**Solve each Problem.****Answers**

- 1) At Oliver's Pizza Palace in the 6 hours they were open they sold the following number of pizzas: 55 pepperoni, 57 sausage, 50 cheese, 51 mushroom, 61 anchovies and 50 pineapple. Determine the mean (rounded to the nearest tenth), median, mode and range of the number of pizzas sold.

- 2) Jerry was counting the money he received for his birthday. From his aunt he received \$9. From his uncle he received \$9. His best friends gave him \$22, \$23 and \$22 and \$22. And his sister gave him \$7. Determine the mean (rounded to the nearest tenth), median, mode and range of the money he received.

- 3) Dave counted the number of times people sharpened their pencils in class for a week. He counted: 4, 13, 4, 1, 14 and 11. Determine the mean (rounded to the nearest tenth), median, mode and range of the numbers.

- 4) Victor was selling chocolate for a school fund raiser. On the first week he sold 75. On the second week he sold 67. On the third week he sold 75. On the fourth week he sold 70 and on the last week he sold 68. Determine the mean (rounded to the nearest tenth), median, mode and range of the chocolate bars he sold.

- 5) During the first 6 hours of the fair there were the following number of customers: 58, 58, 62, 55, 49 and 48. Determine the mean (rounded to the nearest tenth), median, mode and range of the number of customers.

1. _____

2. _____

3. _____

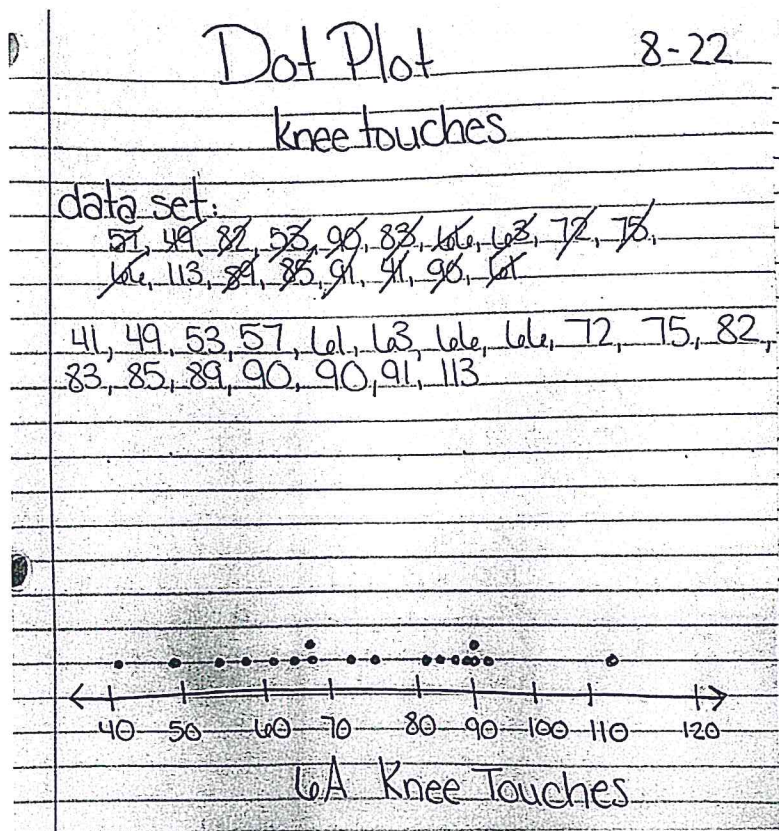
4. _____

5. _____

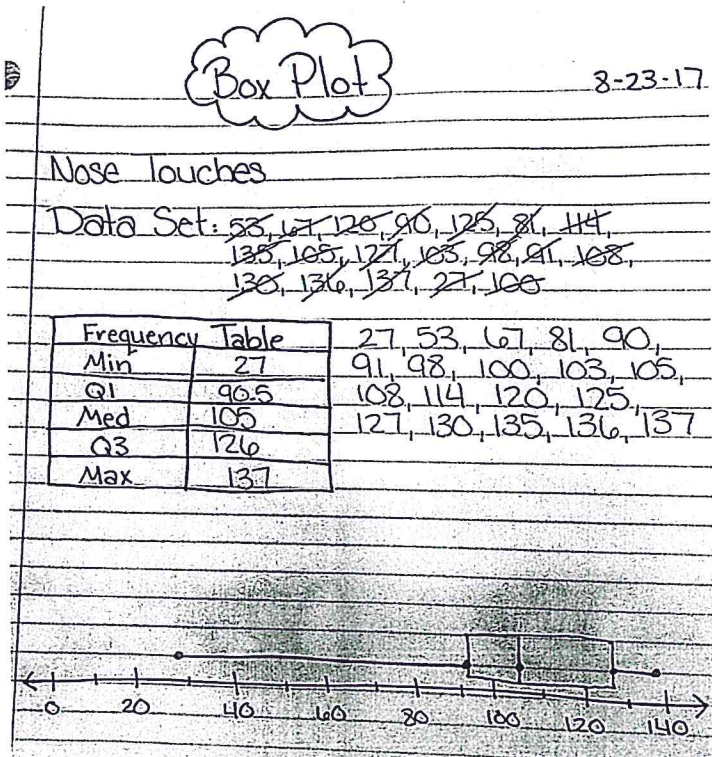
Day 2-Math: Data Analysis-Dot Plots and Box Plots

EXAMPLES:

Dot Plot:



Box Plot:



Dot Plot Worksheet

Directions: Create a dot plot for each example based on the data. Do not forget to label your axis and create a title!

Homework Grades: 82, 84, 84, 86, 87, 90, 92, 92, 95, 96, 96, 96, 99, 100

Points Made for Games during Basketball Season:
25, 27, 35, 35, 35, 38, 39, 40, 40, 42, 43, 45, 46, 46, 50

Age of students in 6th grade: 11, 11, 11, 11, 12, 12, 12, 12, 12, 12, 12, 12, 13, 13, 13

Day 3-Math: Ratios

VOCABULARY:

Ratio: A comparison of two quantities

Equivalent Ratios: two ratios that express the same value

Ratio Table: a table of equivalent ratios

- Reducing Ratios WS Example Problems Worked:

1.) 49: 21

-both numbers can be divided by 7

$$- 49 \div 7 = 7$$

$$- 21 \div 7 = 3$$

So the answer is 7:3 because that is the ratios lowest form.

2.) 42: 54

-both numbers can be divided by 6

$$- 42 \div 6 = 7$$

$$- 54 \div 6 = 9$$

So the answer is 7:9 because that is the ratios lowest form.

- Ratio Tables: Integers

Directions: Fill in the ratio tables using the rule provided.

1.)

X	Y
-10	-90
-6	-54
-2	-18
5	45
12	108
RULE: Multiply by 9	

Because $-10 \times 9 = -90$, the "X" side of the table should be the answer (-90)



Reduce each ratio to its lowest form.

Answers

Ex) 50 : 35 10 : 7 1) 49 : 21 _____ 2) 42 : 54 _____

Ex. 10 : 7

3) 12 : 32 _____ 4) 45 : 20 _____ 5) 15 : 24 _____

1. _____

2. _____

3. _____

4. _____

6) 12 : 8 _____ 7) 2 : 16 _____ 8) 35 : 28 _____

5. _____

6. _____

9) 20 : 36 _____ 10) 14 : 63 _____ 11) 27 : 36 _____

7. _____

8. _____

9. _____

10. _____

12) 70 : 10 _____ 13) 10 : 60 _____ 14) 42 : 30 _____

11. _____

12. _____

13. _____

15) 48 : 42 _____ 16) 90 : 10 _____ 17) 9 : 18 _____

14. _____

15. _____

16. _____

18) 5 : 20 _____ 19) 64 : 72 _____ 20) 42 : 12 _____

17. _____

18. _____

19. _____

20. _____

1-10	95	90	85	80	75	70	65	60	55	50
11-20	45	40	35	30	25	20	15	10	5	0



Determine if the values in the table are proportional (yes) or not (no).

1)

X	Y
-4	-5
-3	-6
-2	-7
-1	-8

2)

X	Y
6	-2
7	-1
8	0
9	1

3)

X	Y
-70	-10
-56	-8
-14	-2
-7	-1

4)

X	Y
6	3
7	4
8	5
9	6

5)

X	Y
1	10
2	20
7	70
10	100

6)

X	Y
2	2
4	4
8	8
10	10

7)

X	Y
20	-32
15	-24
10	-16
5	-8

8)

X	Y
70	-10
63	-9
35	-5
21	-3

9)

X	Y
2	7
6	21
18	63
20	70

10)

X	Y
-12	-32
-9	-24
-6	-16
-3	-8

11)

X	Y
9	3
36	6
64	8
81	9

12)

X	Y
2	4
3	6
4	12
7	21

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

Exponents

Note:
 $n^0 = 1$

$$4^2 = 16$$

$$4^3 = 64$$

$$5^2 = 25$$

$$6^3 = 216$$

$$2^4 = 16$$

$$10^2 = 100$$

Write in Exponential Notation

$$2 \cdot 2 \cdot 2 \cdot 2 = 2^4$$

$$2 \cdot 2 \cdot 3 \cdot 3 \cdot 3 = 2^2 \times 3^3$$

$$2 \cdot 5 \cdot 5 \cdot 6 \cdot 6 \cdot 6 = 2 \times 5^2 \times 6^3$$

Square Roots

$$\sqrt{25} = 5$$

$$\sqrt[4]{16} + \sqrt[8]{64} + \sqrt[3]{9} = 15$$

$$\sqrt{49} = 7$$

$$\sqrt[2]{4} + \sqrt[10]{100} = 12$$

$$\sqrt{81} = 9$$

$$\sqrt{100} = 10$$

Cubed Roots

$$\sqrt[3]{8} = 2$$

$$\sqrt[3]{27} = 3$$

Perfect Squares

$$1^2 = 1$$

$$2^2 = 4$$

$$3^2 = 9$$

$$4^2 = 16$$

$$5^2 = 25$$

$$6^2 = 36$$

$$7^2 = 49$$

$$8^2 = 64$$

$$9^2 = 81$$

$$10^2 = 100$$

Name : _____

Score : _____

Teacher : _____

Date : _____

Perfect Squares and Cubes Operations

Write the square or cube for each number.

1) $4^2 =$ _____

2) $5^3 =$ _____

3) $10^3 =$ _____

4) $19^3 =$ _____

5) $11^2 =$ _____

6) $14^3 =$ _____

Write the square root for each number.

7) $\sqrt{289} =$ _____

8) $\sqrt{400} =$ _____

9) $\sqrt{1} =$ _____

10) $\sqrt{9} =$ _____

11) $\sqrt{361} =$ _____

12) $\sqrt{256} =$ _____

Write the cube root for each number.

13) $\sqrt[3]{4913} =$ _____

14) $\sqrt[3]{4096} =$ _____

15) $\sqrt[3]{1000} =$ _____

16) $\sqrt[3]{8000} =$ _____

17) $\sqrt[3]{3375} =$ _____

18) $\sqrt[3]{343} =$ _____



Day 5-Math: Pre-Algebra
GEMS, Combining Like Terms, Find the Variable

GEMS

- ① G: grouping
- ② E: exponents
- ③ M: multiply/divide
- ④ S: subtract/add

$$\begin{aligned} \textcircled{1} \quad & 8 \cdot 2 + (54 \div 6 + 5) \\ & 8 \cdot 2 + (9 + 5) \\ & 8 \cdot 2 + (14) \\ & 16 + 14 \\ & \boxed{30} \end{aligned}$$

Combining Like Terms

$$\underline{2x + 4} - 3 + 6x + 2$$

$$\boxed{8x + 3}$$

$$3x + 5y - y + 6x - 4$$

$$\boxed{9x + 4y - 4}$$

$$\begin{aligned} 5y - y \\ 5y - 1y \\ \hline 4y \end{aligned}$$

$$\textcircled{2r} + 5pq - 6 + 5r - 2pq + 6$$

$$\boxed{7r + 3pq}$$

Finding the Variable in Equations

equation \rightarrow has an equal sign
 \rightarrow has an answer

$$\text{Ex 1: } \begin{array}{r} J - 5 = 1 \\ + 5 \quad + 5 \\ \hline \end{array}$$

$$J = 6$$

$$6 - 5 = 1 \checkmark$$

* What you do to one side, you must do to the other side

$$\text{Ex 2: } \begin{array}{r} V + 7 = 9 \\ - 7 \quad - 7 \\ \hline \end{array}$$

$$\boxed{V = 2}$$

$$2 + 7 = 9 \checkmark$$

\leftarrow we want the variable by itself

Name : _____

Score : _____

Teacher : _____

Date : _____

Order of Operations

5) $(48 - 4^2) - (9 + 7)$

6) $2 \times (11 + 3) + 9^2$

3) $(39 - 3) - 18 - 5^2$

7) $(2 + 5)^2 + (18 - 2)$

2) $8 \times (13 - 4) - 5^2$

8) $(7 \times 5 - 4^2) + 8$

4) $(9 - 5)^2 + (16 - 2)$

9) $(49 - 3^2) - (1 + 4)$

5) $(4 \times 5 - 6^2) + 5$

10) $(26 - 2) - 12 + 3^2$



Name : _____

Score : _____

Teacher : _____

Date : _____

Solve the Equations

1) $40 = -4d$

6) $12 = -7 + h$

2) $-5c = 40$

7) $f + 5 = 6$

3) $-8 = s + 5$

8) $7z = -56$

4) $6 = \frac{n}{6}$

9) $-36 = -4b$

5) $\frac{x}{6} = -5$

10) $-13 = 2 + r$

