

7th Grade
May 3, 2021

Today we will:

-Review last week's
packets/notes/
homework

-Begin classwork on
Lessons 1 and 2



HOMEWORK:

Complete WS

ALEKS time and topics
due TONIGHT at 11:59PM



Measures of Center:

- *mean Add up all the numbers in the set and divide by how many there are
 - *median Put the numbers in the set in order from least to greatest. Find the middle number. If there are two middle numbers, find their average (add the two in the middle and divide by two)
 - *mode Find the number that occurs most often. There can be more than one mode (if two or more numbers in the set repeat the same number of times), or there can be no mode (if no numbers repeat).
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Example: 316, 305, 111, 295, 325, 322

Put in order: 111, 295, 305, 316, 322, 325

$$\text{Mean: } \frac{111 + 295 + 305 + 316 + 322 + 325}{6}$$

$$= \frac{1674}{6}$$

$$= 279$$

$$\text{Median: } \frac{305 + 316}{2}$$

(because there are two middle numbers, I have to find their average to find the exact middle of the number set, which is the median)

$$= \frac{621}{2}$$

$$= 310.5$$

Mode: None

Task 3:

Lesson 1 Skills Practice

Measures of Center

Calculators OK

Find the mean, median, and mode for each set of data. If necessary, round to the nearest tenth.

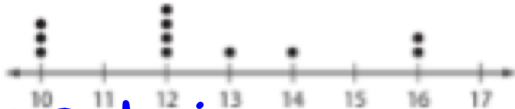
1. 6, 3, 3, 12, 13, 15, 7

In order: 3, 3, 6, 7, 12, 13, 15
 mean: 8.4
 median: 7
 mode: 3

2. 1, 1, 0, 2, 1, 1, 0, 0, 1

In order: 0, 0, 0, 1, 1, 1, 1, 1, 2
 mean: 0.8
 median: 1
 mode: 1

7.



In order: 10, 10, 10, 12, 12, 12, 12, 13, 14, 16, 16
 mean: 12.5
 median: 12
 mode: 12

Each dot on the dot plot represents one number in the set. For example, in this dot plot, there are 3 tens, 4 twelves, etc. So there will be 11 numbers in your set for #7. (Yes, I know the problem numbers skip.)

9. The average daily temperature by month for one year in Denver, Colorado, is given in the table below. Find the mean, median, and mode for temperature. If necessary, round to the nearest tenth.

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Temp. (°F)	43°	47°	51°	61°	71°	82°	88°	86°	78°	67°	52°	46°

In order: 43, 46, 47, 51, 52, 61, 67, 71, 78, 82, 86, 88
 mean: 64.3
 median: 64
 mode: none

Video notes example:

Find the range, Q1, Q3, IQR, and any outliers

Costs of Items at Store (\$)	
2	3
6	8
9	12
12	15
33	34

Use the table to make a list:

2, 3, $\textcircled{6}$ Q_1 , 8, 9, $\overset{\text{Median}}{\downarrow} 10.5$, 12, 12, $\textcircled{15}$ Q_3 , 33, 34

range = max - min = $34 - 2 = \textcircled{32}$

$Q_1 = 6$

$Q_3 = 15$

IQR = $Q_3 - Q_1 = 15 - 6 = 9$

Outliers? IQR $\times 1.5 = 9 \times 1.5 = 13.5$

Low outlier? $\rightarrow Q_1 - 13.5 = 6 - 13.5 = \text{NO}$

High outliers? $\rightarrow Q_3 + 13.5 = 15 + 13.5 = 28.5$

Yes, 33 and 34 are outliers

Task 3:

Calculators OK*

Lesson 2 Skills Practice
Measures of Variability

Find the range, Q1, Q3, IQR, and any outliers for each set of data.

1. {7, 9, 21, 8, 13, 19}

In order: 7, 8, 9, 13, 19, 21
 Range = 14
 Q₁ = 8
 Q₃ = 19
 IQR = 11
 Outliers? no

2. {33, 34, 27, 40, 38, 35}

In order: 27, 33, 34, 35, 38, 40
 Range = 13
 Q₁ = 33
 Q₃ = 38
 IQR = 5
 Outliers? no

3. {37, 29, 42, 33, 31, 36, 40}

In order: 29, 31, 33, 36, 37, 40, 42
 Range = 13
 Q₁ = 31
 Q₃ = 40
 IQR = 9
 Outliers? no

4. {87, 72, 104, 94, 85, 71, 80, 98}

In order: 71, 72, 80, 85, 87, 94, 98, 104
 Range = 33
 Q₁ = 76
 Q₃ = 96
 IQR = 20
 Outliers? no

89, 90, 80, 100, 92, 104, 150

In order: 80, 89, 90, 92, 100, 104, 150

Mean: 100.7

Median: 92

Mode: 100

Range: 70

Q_1 : 89

Q_3 : 104

IQR: $Q_3 - Q_1 = 104 - 89 = 15$

Outliers? $IQR \times 1.5 = 15 \times 1.5 = 22.5$

Lower outlier? $Q_1 - 22.5 =$
 $89 - 22.5 = 66.5$
 No

Upper outlier? $Q_3 + 22.5 =$
 $= 104 + 22.5 =$
 $= 126.5$

Upper outlier = 150

NAME _____ DATE _____ PERIOD _____

Lesson 1 Homework Practice

Measures of Center

Calculators OK

Find the mean, median, and mode for each set of data. If necessary, round to the nearest tenth.

1. 4, 6, 12, 5, 8

Numbers in order:

Mean:

Median:

Mode:

2. 16, 18, 15, 16, 21, 16

Numbers in order:

Mean:

Median:

Mode:

5. 25, 25, 25, 20

Numbers in order:

Mean:

Median:

Mode:

6. 3.1, 4.5, 4.5, 4.3, 6.0, 3.2

Numbers in order:

Mean:

Median:

Mode:

Find the mean, median, and mode for each set of data. If necessary, round to the nearest tenth.

7.



Numbers in order:

Mean:

Median:

Mode:

9. The table below shows the number of tornadoes reported in the United States from 1997-2007. Find the mean, median, and mode for the number of tornadoes. If necessary, round to the nearest tenth.

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Number of Tornadoes	1148	1417	1342	1071	1216	941	1367	1819	1264	1106	1074

Numbers in order:

Mean:

Median:

Mode:

NAME _____ DATE _____ PERIOD _____

Lesson 2 Homework Practice

Measures of Variability

Find the measures of variability and any outliers for each set of data.

1. {3, 9, 11, 8, 6, 12, 5, 4}

2.

Numbers in order:

Range:

Q1:

Q3:

IQR:

Outliers:

Fossils in Museum Exhibits	
64	67
69	79
81	81
83	83
84	86
90	91
92	95

Numbers in order:

Range:

Q1:

Q3:

IQR:

Outliers:

For Exercises 10-12, use the data in the table at the right.

10. What is the range of populations shown?

11. What is the interquartile range for the annual growth rate?

12. Where does the city with the fastest growth rate fall in terms of population? The city with the slowest growth rate?

Populations of the World's Largest Cities 2000		
City	Population millions	Annual Growth Rate (%)
Tokyo, Japan	26.4	0.51
Mexico City, Mexico	18.1	1.81
Mumbai, India	18.1	3.54
Sao Paulo, Brazil	17.8	1.43
New York City, U.S.	16.6	0.37
Lagos, Nigeria	13.4	5.33
Los Angeles, U.S.	13.1	1.15
Calcutta, India	12.9	1.60
Shanghai, China	12.9	-0.35
Buenos Aires, Argentina	12.6	1.14



