

Probability and Statistics

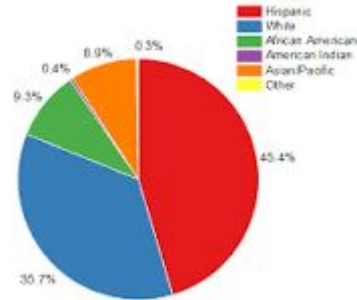
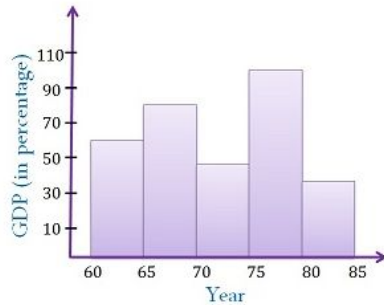
Lesson: April 10

Learning Target:

Students will be able to create various types of graphical representations from a set of data or interpret the data presented various types of graphical representations

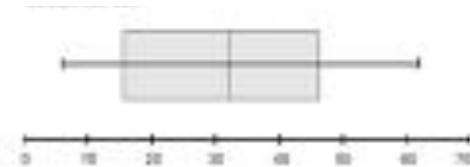
Let's Get Started!

Name each of the types of data representations below.



stem	leaf
0	1, 1, 2, 2, 3, 4, 4, 4, 4, 5, 8
1	0, 0, 0, 1, 1, 3, 7, 9
2	5, 5, 7, 7, 8, 8, 9, 9
3	0, 1, 1, 1, 2, 2, 2, 4, 5
4	0, 4, 8, 9
5	2, 6, 7, 7, 8
6	3, 6

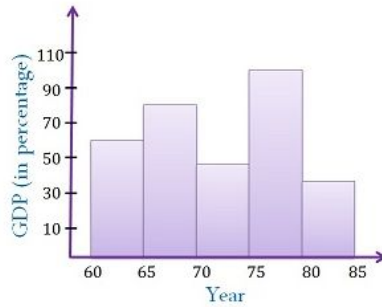
Key: 6|3 = 63 years old



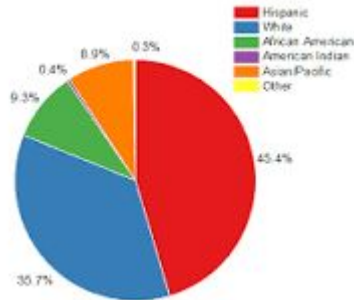
Let's Get Started!

Name each of the types of data representations below.

HISTOGRAM



CIRCLE/PIE GRAPH

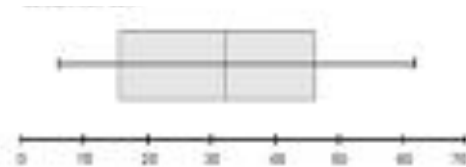


STEM AND LEAF

stem	leaf
0	1, 1, 2, 2, 3, 4, 4, 4, 4, 5, 8
1	0, 0, 0, 1, 1, 3, 7, 9
2	5, 5, 7, 7, 8, 8, 9, 9
3	0, 1, 1, 1, 2, 2, 2, 4, 5
4	0, 4, 8, 9
5	2, 6, 7, 7, 8
6	3, 6

Key: 6|3 = 63 years old

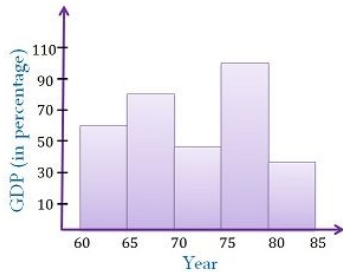
BOX AND WHISKER



Let's Get Started!

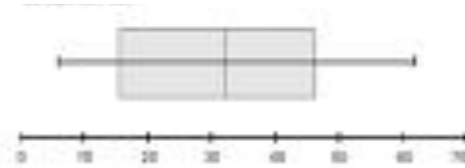
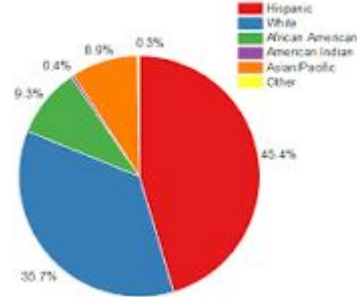
Take a moment to do a self-reflection.

- Which of the graphical representations are you strongest at?
- Which of the graphical representations are you weakest at?
- Are there any that you need to go back and review the lesson and practice more on?



stem	leaf
0	1, 1, 2, 2, 3, 4, 4, 4, 4, 5, 8
1	0, 0, 0, 1, 1, 3, 7, 9
2	5, 5, 7, 7, 8, 8, 9, 9
3	0, 1, 1, 1, 2, 2, 2, 4, 5
4	0, 4, 8, 9
5	2, 6, 7, 7, 8
6	3, 6

Key: 6|3 = 63 years old



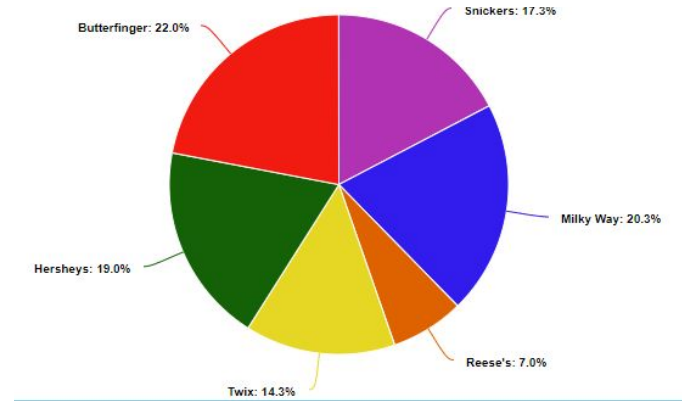
Lesson/Practice:
Watch this video
[Graphical Representation Review](#)

Watch the video linked above for quick review of the different types of graphical representations

Practice Problem: Circle Graph

300 students were recently polled about their favorite type of candy bar given 6 options. The data is represented in the circle graph to the right.

1. What percent of students prefer Snickers or Twix?
2. What percent of students do NOT prefer Reese's Peanut Butter Cups?
3. How many students prefer Milky Way?
4. How many more students prefer Butterfinger to Twix?



Practice Problem: Circle Graph Answer Key

300 students were recently polled about their favorite type of candy bar given 6 options. The data is represented in the circle graph to the right.

1. What percent of students prefer Snickers or Twix?

$$17.3\% + 14.3\% = 31.6\%$$

2. What percent of students do NOT prefer Reese's Peanut Butter Cups?

$$100\% - 7\% = 93\%$$

3. How many students prefer Milky Way?

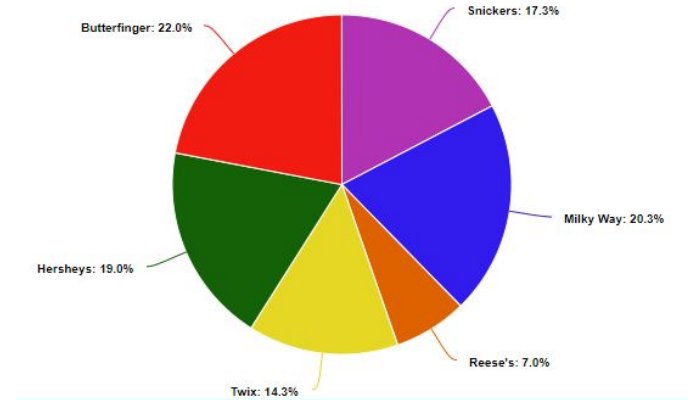
$$20.3\% \text{ -----} \rightarrow 0.203 * 300 = 61 \text{ Students}$$

4. How many more students prefer Butterfinger to Twix?

$$\text{Butterfinger} = 22\% \text{ -----} \rightarrow 0.22 * 300 = 66 \text{ Students}$$

$$\text{Twix} = 14.3\% \text{ -----} \rightarrow 0.143 * 300 = 43 \text{ Students}$$

$$66 - 43 = 23 \text{ more students prefer Butterfinger than prefer Twix}$$



Practice Problem: Stem and Leaf Plot

The goal of a local pumpkin patch is to have an average pumpkin weight of 10 pounds. The farm recently sampled the weight 21 pumpkins in their new west patch. The data is represented to the right in a Stem-and-Leaf plot.

Stem	Leaf
0	3 7 7 8 8 9 9
1	0 0 0 0 2 2 2 4 4 4 5 5 5 8

1. How many pumpkins weighed above 10 pounds?
2. How many pumpkins weight below 10 pounds?
3. What was the average weight of the pumpkins?
4. What is the range of pumpkin weights?
5. Based on your findings, what would you recommend to the pumpkin patch for the amount of time they need to let the pumpkins grow?

Key: $1|2 = 12$

Practice Problem: Stem and Leaf Plot Answer Key

The goal of a local pumpkin patch is to have an average pumpkin weight of 10 pounds. The farm recently sampled the weight 21 pumpkins in their new west patch. The data is represented to the right in a Stem-and-Leaf plot.

1. How many pumpkins weighed above 10 pounds?

10

2. How many pumpkins weight below 10 pounds?

7

3. What was the average weight of the pumpkins?

11.05

4. What is the range of pumpkin weights?

15

5. Based on your findings, what would you recommend to the pumpkin patch for the amount of time they need to let the pumpkins grow?

The patch needs to pick the pumpkins a little earlier. On average, they are growing them too big!

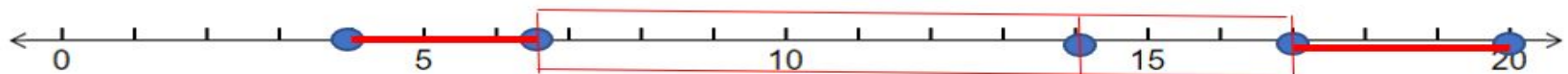
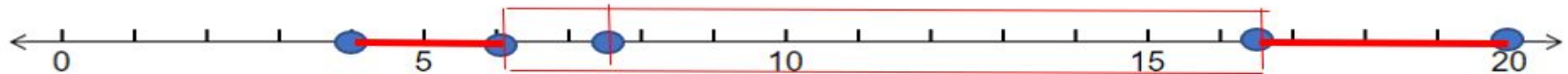
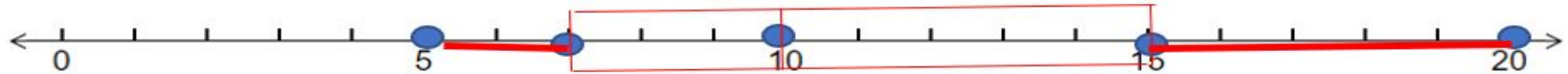
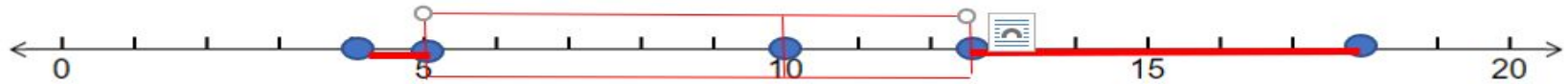
Stem	Leaf
0	3 7 7 8 8 9 9
1	0 0 0 0 2 2 2 4 4 4 5 5 5 8

Key: 1|2 = 12

Practice Problem: Box and Whisker Graph

Which box and whisker plot represents this data set?

13, 9, 4, 16, 18, 14, 20, 15, 4

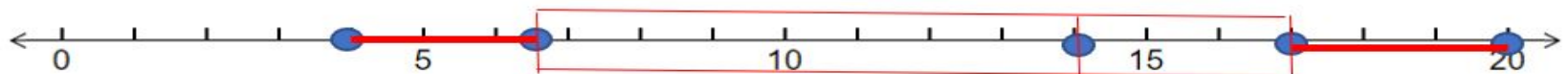
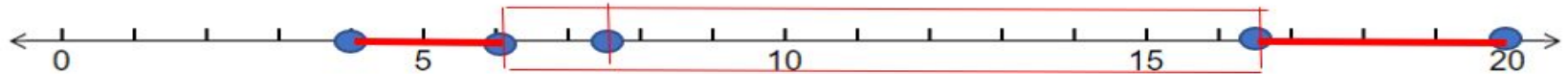
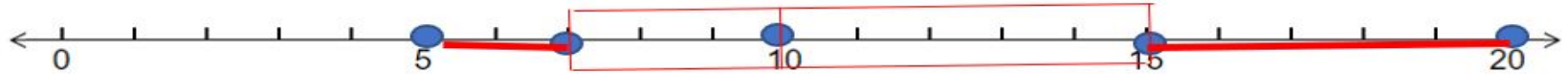
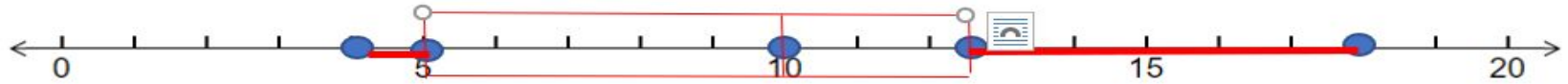


Practice Problem: Box and Whisker Graph

Which box and whisker plot represents this data set?

13, 9, 4, 16, 18, 14, 20, 15, 4

Answer is Graph #4

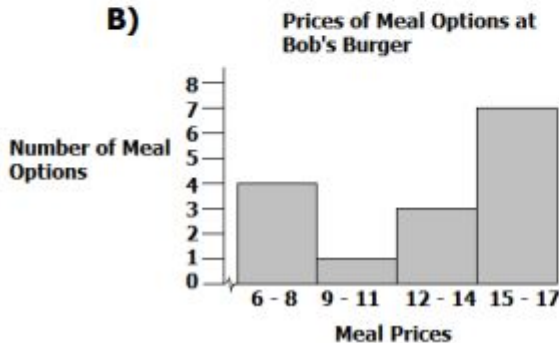
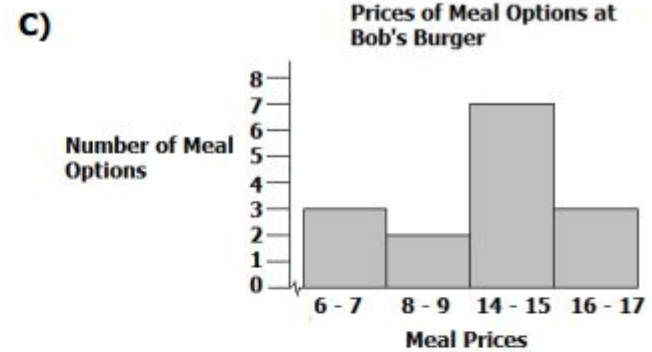


Practice Problem: Histogram

Prices of Meal Options at Bob's Burgers

\$6	\$7	\$7	\$8	\$9
\$14	\$14	\$14	\$15	\$15
\$15	\$15	\$16	\$16	\$17

Which histogram on the right, correctly displays the information above?



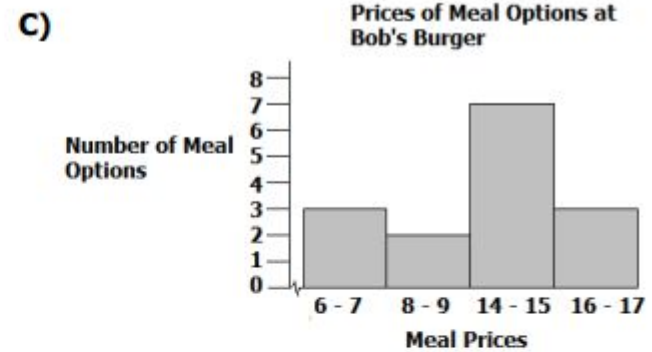
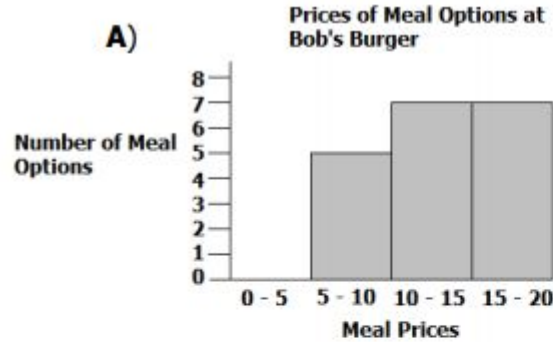
Practice Problem: Histogram

Prices of Meal Options at Bob's Burgers

\$6	\$7	\$7	\$8	\$9
\$14	\$14	\$14	\$15	\$15
\$15	\$15	\$16	\$16	\$17

Which histogram on the right, correctly displays the information above?

B



Additional Resources:

Click on the links below to get additional practice on graphical representations

[Extra Circle Graph Practice](#)

[Extra Stem and Leaf Practice](#)

[Extra Histogram Practice](#)

[Extra Box and Whisker Practice](#)