Name: _Answer Key_   Date: _____

Graphical Displays for Data

Example 1: A pharmacy records the number of customers each hour that the pharmacy is open. The staff is using the information to determine how many people need to be working at the pharmacy at each time of the day. The number of customers is in the table below. Use the table to create a histogram to help the pharmacy staff understand how many customers are in the pharmacy at each time of day.

Time Frame	Number of customers
8:00 A.M. – 9:00 A.M.	2
9:00 A.M. – 10:00 A.M.	0
10:00 A.M. – 11:00 A.M.	8
11:00 A.M. – 12:00 P.M.	14
12:00 P.M. – 1:00 P.M.	23
1:00 P.M. – 2:00 P.M.	12
2:00 P.M. – 3:00 P.M.	7
3:00 P.M. – 4:00 P.M.	3
4:00 P.M. – 5:00 P.M.	5
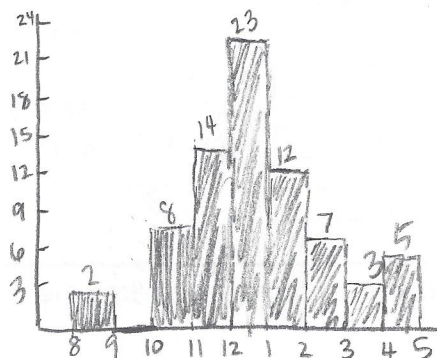
Example 2: Anna and Ethan watch 10 thirty-minute shows during the month of June. They record the number of food commercials that air during each show in the table below. Create a dot plot to display the number of food commercials that aired during the 10 shows.

Shows	# of Commercials
A	7
B	7
C	5
D	7
E	4
F	7
G	5
H	9
I	5
J	6

4, 5, 5, 5, 6, 7, 7, 7, 7, 9

This is better →

OR
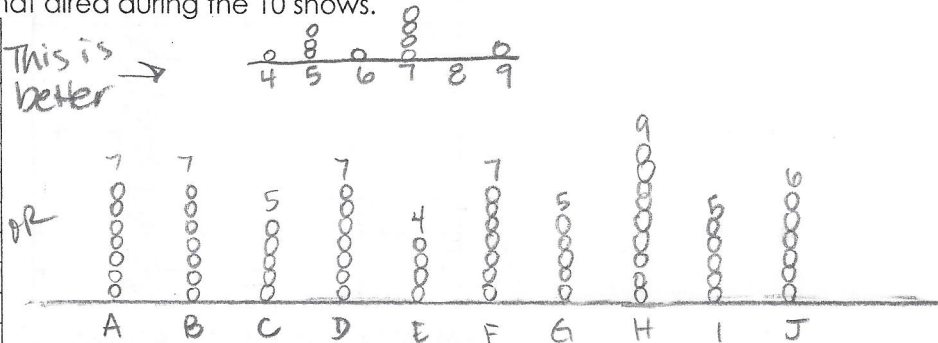
Example 3: Ray's scores on his mathematics tests were 70, 85, 78, 90, 84, 82, and 83. Draw a box plot to represent Ray's Data.

70, 78, 82, $\boxed{83}$, 84, 85, 90

Q1   Q2   Q3
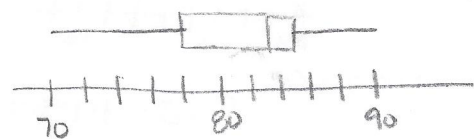
Find the IQR. 85 − 78 = $\boxed{7}$

Are there any outliers? Q1 − 1.5(IQR)   Q3 + 1.5(IQR)
                        78 − 1.5(7) = 67.5   85 + 1.5(7) = 95.5   No Outliers

nothing less than 67.5   nothing greater than 95.5

Example 4: A company keeps track of the age at which employees retire. It is considered an early retirement if the employee retires before turning 65. The age of the 11 employees who took early retirement this year are listed in the table below. Draw a box plot for the data. Are there any striking deviations in the data?

Employee	Age at early retirement
1	56
2	55
3	60
4	51
5	53
6	58
7	56
8	64
9	59
10	42
11	48

42, 48, 51, 53, 55, 56, 56, 58, 59, 60, 64
     Q1   Q2   Q3

$IQR = 59 - 51 = 8$

$Q1 - 1.5(IQR)$
$51 - 1.5(8)$
39

No outliers

$Q3 + 1.5(IQR)$
$59 + 1.5(8)$
71

Example 5: Elizabeth records her scores each time she goes bowling. The scores from her last 13 games are in the table below.

Game	Score
1	206
2	210
3	198
4	209
5	194
6	200
7	216
8	212
9	196
10	224
11	228
12	231
13	207

Construct a box plot of her data.

194, 196, 198 | 200, 206, 207 | 209 | 210, 212, 216 | 224, 228, 231
        199   220

Find the IQR.

$220 - 199 = \boxed{21}$

Are there any outliers?

$Q1 - 1.5(IQR)$
$199 - 1.5(21)$
167.5

No outliers

$Q3 + 1.5(IQR)$
$220 + 1.5(21)$
251

Adapted from: Walch Education Resources: CCGPS Coordinate Algebra Teacher Resource Binder