

Use the data to make a cumulative frequency table and a histogram for both students.

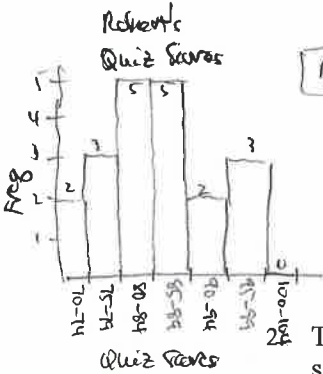
1. Robert and Elaine's quiz scores for the first semester of Algebra 1 are shown below. 7 classes

Robert's Quiz Scores - 85, 98, 70, 87, 78, 82, 84, 84, 85, 99, 88, 74, 78, 89, 79, 80, 92, 91, 98, 81

Elaine's Quiz Scores - 89, 76, 87, 86, 92, 77, 78, 83, 83, 82, 81, 82, 84, 85, 85, 86, 89, 93, 77, 85

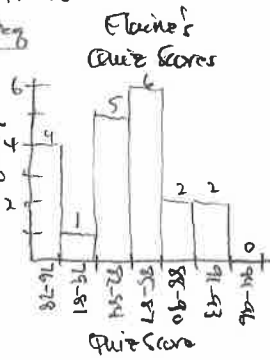
$\frac{99-70}{7} \approx 5$

$\frac{93-76}{7} \approx 3$



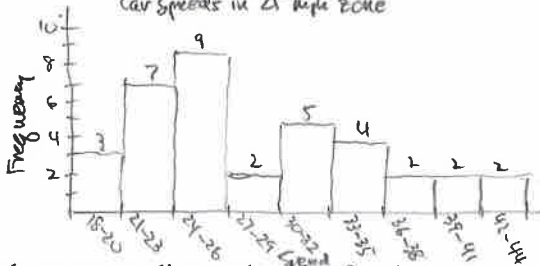
Class	Freq	Cum. Freq
70-74	2	2
75-79	3	5
80-84	5	10
85-89	5	15
90-94	2	17
95-99	3	20
100-104	0	20

Class	Freq	Cum. Freq
76-78	4	4
79-81	1	5
82-84	5	10
85-87	6	16
88-90	2	18
91-93	2	20
94-96	0	20



The following are speeds (mph) for cars in a 25 mph residential area near an Elementary school. Use 9 Classes

18, 18, 19, 21, 21, 22, 22, 22, 23, 23, 24, 24, 25, 25, 25, 26, 26, 26, 26, 29, 29, 30, 30, 30, 31, 32, 33, 34, 34, 35, 36, 37, 25, 22, 31, 25, 26, 35, 18, 39, 22, 32, 34, 26, 42, 28, 40, 36, 18, 30, 26, 30, 37, 28, 19, 33, 24, 29, 39, 21, 43, 25, 34, 24, 26, 30, 21, 22, 38, 40, 42, 43



Class	Freq	Cum. Freq
18-20	3	3
21-23	7	10
24-26	9	19
27-29	2	21
30-32	5	26
33-35	4	30
36-38	2	32
39-41	2	34
42-44	2	36

$\frac{43-18}{9} = \frac{25}{9} \rightarrow 3$

3. Find the mean, median, and mode of each data set.

21, 12, 18, 18, 16, 10, 12, 19, 17, 18, 12, 22 - \$ amount of money from selected students

10, 12, 12, 12, 15, 16, 17, 18, 18, 19, 21, 22

mean = $\frac{10+12+12+12+15+16+17+18+18+19+21+22}{12} = \frac{192}{12} = 16$

mode = 12
med = 16.5
mean = 16

4. The number of minutes students spend traveling to school each day.

8, 4, 18, 7, 13, 26, 12, 6, 20, 5, 9, 24, 8, 16, 31, 13, 17, 10, 8, 22, 12, 25, 13, 11, 18, 12, 16, 22, 25, 33

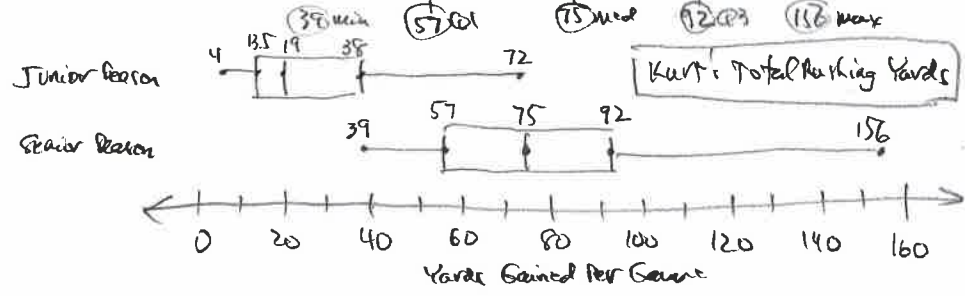
mean = $\frac{430}{30} = 14.3 \approx 14.3$
median = 13
mode = 8, 12, 13

n=30

Construct a box-and-whisker plot for each of Kurt's total rushing yards per game for his junior and senior seasons on the same scale.

Junior Season (yds) - 16, 20, 72, 4, 25, 18, 34, 10, 42, 17, 58, 12

Senior Season (yds) - 77, 54, 109, 60, 156, 72, 39, 88, 78, 101, 46, 80



6. Miguel plays golf at Table Rock Golf Course. If he shoots an average of 80 or lower after 10 rounds, he will receive free rounds of golf for a week. If Miguel has shot an 81, 80, 79, 79, 83, 82, 81, 80, and 80 for 9 rounds, what must he shoot on his tenth round in order to have an overall average of 80. Show all your mathematical work clearly.

$$10. \frac{81+80+79+79+83+82+81+80+80+x}{10} = 80 \cdot 10$$

$$725 + x = 800$$

$$x = 75$$

Miguel must shoot a 75 on his tenth round to have an average of 80.

7. Tim, Allen, Brent, and Matt have volunteered to be on a fundraising committee. If the first person chosen is in charge of the decorations and the second person chosen is in charge of the venue. Write down the possible sample space for choosing two out of the four volunteers.

$${}^4P_2 = \frac{4!}{2!} = 12$$

$$4 \cdot 3 = 12$$

Decor.	Venue
T	A
T	B
T	M
T	A
A	B
A	M
A	A
M	B
M	M
M	A

order matters!

B
B
B

T
A
M

or

T,A
T,B
T,M
A,T
A,B
A,M
B,T
B,A
B,M
M,T
M,A
M,B

8. A bag contains 6 black marbles, 9 blue marbles, 4 yellow marbles, and 2 green marbles. You pick two marbles from the bag. You pick the second marble with replacing the first.

$$6+9+4+2 = 21$$

a. Find P (two greens). = $\frac{2}{21} \cdot \frac{2}{21} = \frac{4}{441}$

b. Find P (blue then green). = $\frac{9}{21} \cdot \frac{2}{21} = \frac{18}{441}$

c. Find P (not black, blue). = $\frac{15}{21} \cdot \frac{9}{21} = \frac{135}{441} = \frac{15}{49}$

9. Two cards are selected, without replacing the first card, from a standard deck of 52 playing cards. Find the probability of selecting a king and then selecting a queen.

$$P(\text{King then Q}) = \frac{4}{52} \cdot \frac{3}{51} = \frac{12}{2652} = \frac{3}{676}$$

10. You select a card from a standard deck of 52 playing cards. Find the probability that the card is a 4 or an ace.

$$P(4 \text{ or } A) = \frac{8}{52} = \frac{2}{13}$$

11. You select two cards from a standard deck of 52 playing cards. Find the probability that you draw a facecard and then a Jack.

$$P(\text{facecard then J}) = \frac{12}{52} \cdot \frac{4}{51} = \frac{48}{2652} = \frac{4}{221} \quad (\text{unless the first facecard was a Jack})$$