

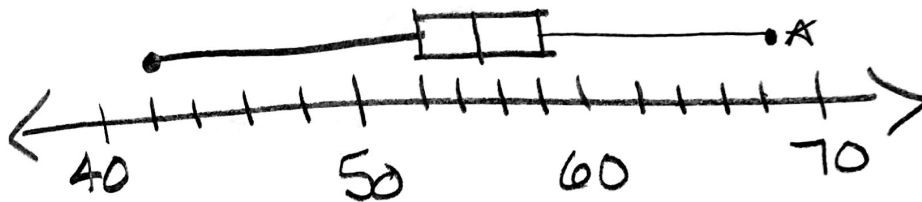
Ages of the first 42 Presidents of the United States when they first took office

42	43	46	46	47	48	49	49	50
51	51	51	51	51	52	52	54	54
54	54	55	55	55	55	56	56	56
57	57	57	57	58	60	61	61	61
62	64	64	65	68	69			

1. Name the first, second, and third quartiles of the data set.

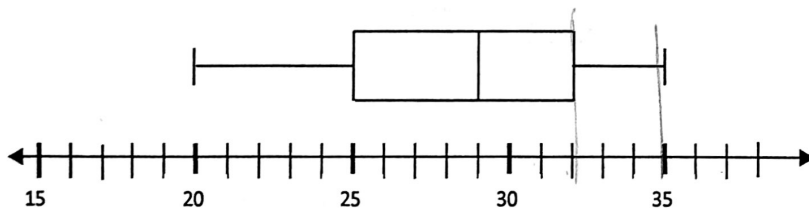
$Q_1 = 51$ MED = 55 $Q_3 = 58$

2. Use the data to build a box-and-whisker plot. (If necessary, draw outliers.)



3. Are there any outliers? Explain why or why not.

$IQR = 7$ $Q_1 - 10.5 = 40.5$ 69 IS AN OUTLIER
 $1.5(7) = 10.5$ $Q_3 + 10.5 = 68.5$



4. Write an inequality that shows where the top fourth of the data lies.

$x > 32$ OR $32 < x \leq 35$

5. One quarter of the data values are greater than what number?

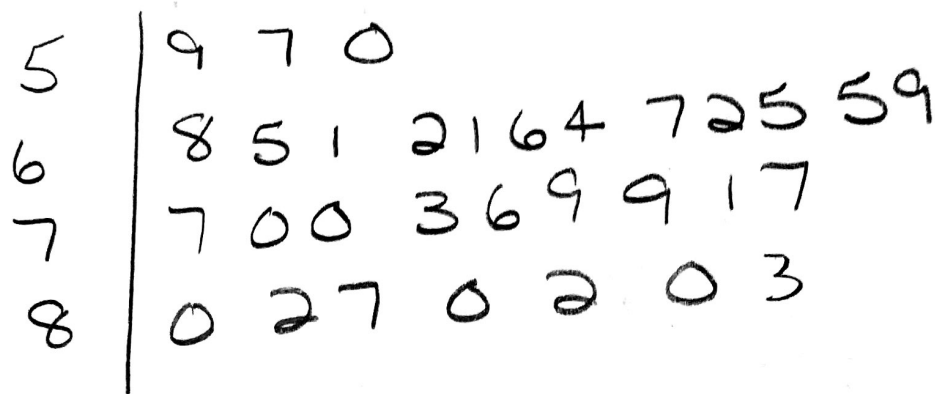
32 TOP 25%

High Temperatures for each day in June

77	80	82	68	65	59
61	57	50	62	61	70
69	64	67	70	62	65
65	73	76	87	80	82
83	79	79	71	80	77

6. Use the data to create a stem-and-leaf diagram.

HIGH TEMPS IN JUNE



KEY
8|0 = 80°

7.

- a. What was the lowest temperature? 50°
- b. What was the greatest temperature? 87°
- c. What was the median temperature? 70°
- d. What was the range of the temperatures? 37°

ACT composite scores

25	30	22	18	34	24	35	16
20	23	24	26	28	30	31	28
27	25	30	19	20	21	22	25
26	28	19	21	22	24	26	27

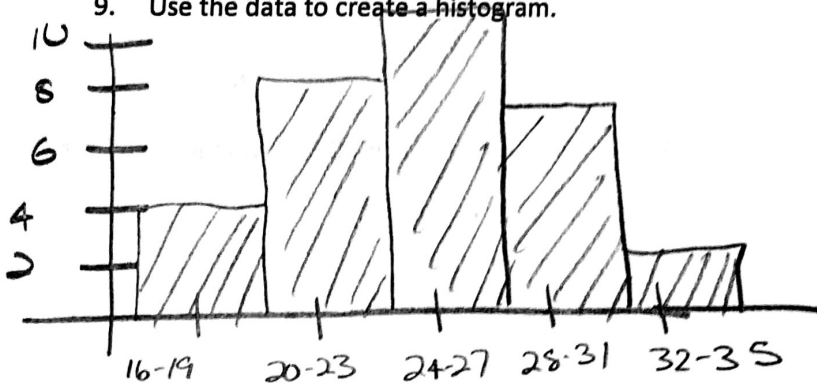
8. Use the data to create a frequency table. Use 5 intervals.

16 - 19	4
20 - 23	8
24 - 27	11
28 - 31	7
32 - 35	2

$$35 - 16 = 19$$

$$\frac{19}{5} = 3.8 \approx 4$$

9. Use the data to create a histogram.



10. a. What is the mean of the data?

$$24.875$$

b. What is the median of the data?

$$25$$

c. What is the mode of the data?

NONE

Scores on Test

Interval	Frequency
30-39.99	1
40-49.99	1
50-59.99	2
60-69.99	4
70-79.99	12
80-89.99	10
90-99.99	4

$\overline{3A}$

11. What is the relative frequency of scores between 60 and 69.99?

$$\frac{4}{3A} = .118 \text{ or } 11.8\%$$

12. What is the relative frequency of scores greater than or equal to 80?

$$\frac{14}{3A} = .412 \text{ or } 41.2\%$$

13. Riley's test scores are 80, 84, 94, and 86. She has one more test this card marking. What score does she need on the last test to have an average of 90?

$$\frac{80 + 84 + 94 + 86 + X}{5} = 90$$

$$X = 106$$

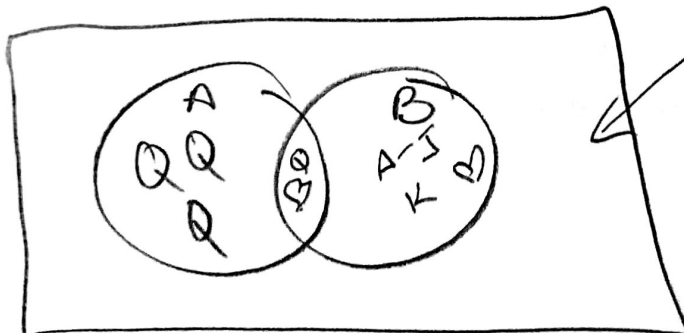
14. The mean of a set of numbers is 25. The sum of the numbers is 200. How many numbers are in the set?

$$\frac{200}{n} = 25$$

$$n = 8$$

15. A sample space is a regular deck of cards. Construct a Venn diagram showing the following sets:

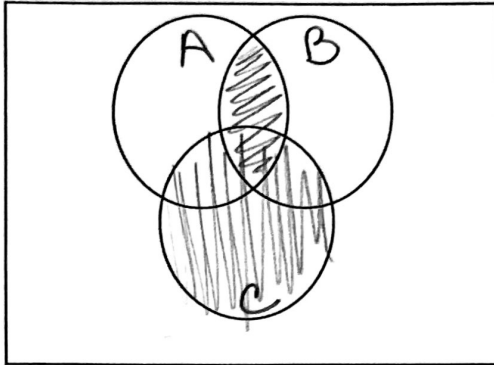
A = {Queens} B = {Hearts}



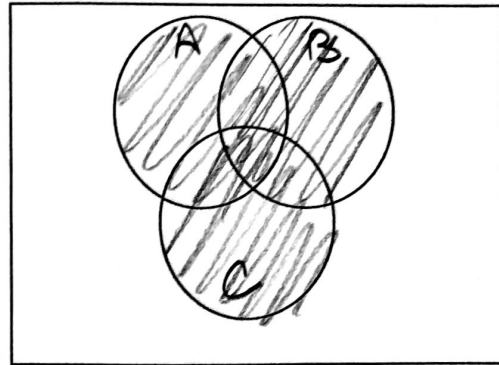
REST OF THE CARDS

Use Venn Diagrams to show each of the following regions. Assume sets A, B, and C all intersect one another.

16. $(A \cap B) \cup C$

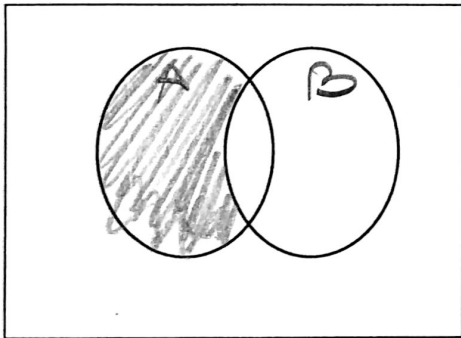


17. $A \cup (B \cap C)$

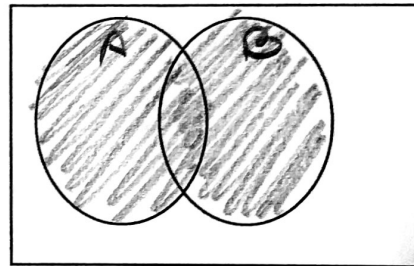


Let A and B be two intersecting sets neither of which is a subset of the other. Use Venn diagrams to illustrate each of the following sets.

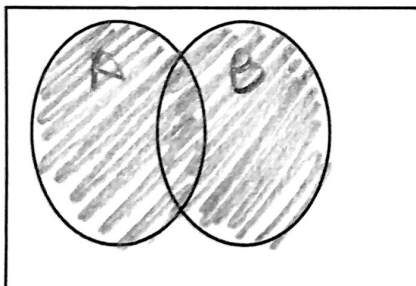
18. $\{x | x \in A \text{ and } x \notin B\}$



19. $\{x | x \in A \text{ or } x \in B\}$



20. $\{x | x \in A \cup B\}$



Z1. Draw a Venn diagram showing the relationship between sets S, A, B, and C.

Sample Space S = {positive integers less than 16}

A = {prime numbers}

B = {factors of 36}

C = {multiples of 4}

