

Name: Answer Key

Class: _____

Probability and Statistics Review Sheet

1. When conducting survey, what are the three main criteria to consider when picking a sample?

Large, Random, unbiased

2) A school wants to add a co-ed soccer program. To determine student interest in the program, a survey will be taken. In order to get an unbiased sample, which group should the school survey?

a) Every third student entering the building

b) Every member of the varsity football team

c) Every member in Ms. Zimmer's drama class

d) All students in the second period French class

↑
Truly Random

3) A) Calculate the mean, median, mode and range of the following data:

Class A Test Scores: 30, 70, 60, 75, 75, 100, 75, 60, 70, 100

Mean: 71.5

Median: 72.5

Mode: 75

Range: 70

B) Calculate the Interquartile Range (IQR) 15

C) Calculate the Mean Absolute Deviation (MAD) 13.5

4)

The probability for each team to win the World Series this year in the MLB has recently been released:

Mets: $\frac{3}{8}$

Braves: $\frac{2}{9}$

Marlins: $\frac{1}{15}$

Phillies: $\frac{3}{20}$

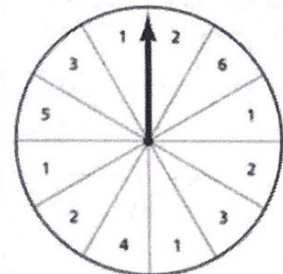
Yankees: $\frac{5}{12}$

Based on these figures, which team is least likely to win? How do you know?

Smallest decimal

5) If you were to spin the spinner to the right 120 times, **about** how many times would you expect it to land on a section labeled "1"?

$$\frac{4}{12} \times 120 = \text{40 times}$$



6) Albert has 6 different types of pants, 4 dress shirts, and 2 different style shoes. How many different outfits can he make consisting of pants, a dress shirt, and shoes?

$$6 \times 4 \times 2 = 48 \text{ outfits}$$

7)

At *Trader Joe's* this morning, 95 people used a debit card to check out, 129 people used cash, and 75 used Apple-pay. Based on these figures, which fraction is closest to the probability that a random customer will use Apple-pay when checking out?

- a. $\frac{1}{3}$
- b. $\frac{1}{4}$
- c. $\frac{1}{5}$
- d. $\frac{1}{2}$

$\frac{75}{299}$ is about 0.25, which is closest to $\frac{1}{4}$

8)

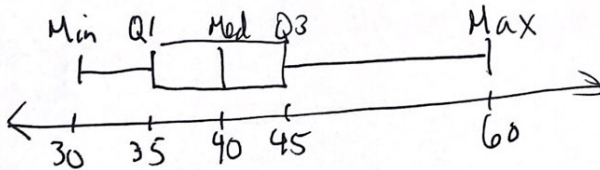
A jar contains the following marbles:

Red	Blue	Yellow	Green
12	14	10	4

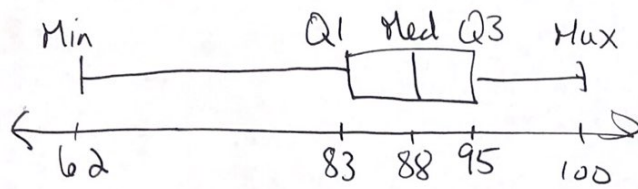
- A) A marble is picked once; Find the P(not yellow) $\frac{30}{40} = \frac{3}{4}$
- B) A marble is picked once; Find the P(red or yellow) $\frac{22}{40} = \frac{11}{20}$
- C) A marble is picked and returned to the bag for the next pick: Find P(red and red) $\frac{12}{40} \times \frac{12}{40} = \frac{144}{1600}$
- D) A marble is picked and not returned to the bag for the next pick: Find P(red and red) $\frac{12}{40} \times \frac{11}{39} = \frac{132}{1560}$
- E) A marble is picked and not replaced on each pick. Find P (red, yellow, yellow) $\frac{12}{40} \times \frac{10}{39} \times \frac{9}{38} = \frac{1,080}{59,280}$
- 9) Make a Box-and-Whisker Plot That Represents the Data.

Find and state the minimum, first quartile, median, third quartile, and maximum.

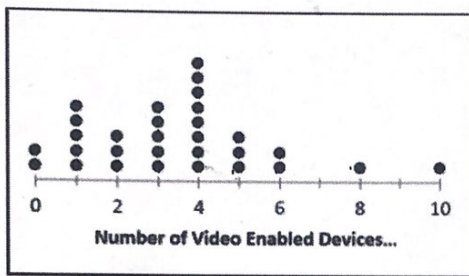
1. Video game prices (in dollars):
45, 40, 50, 35, 30, 40, 40, 30, 45, 60



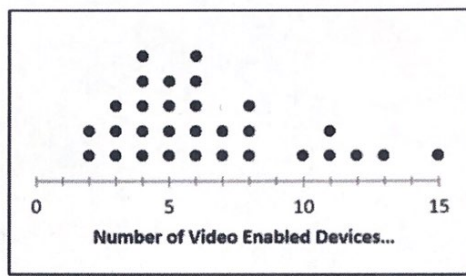
2. Exam scores: 79, 86, 100, 82, 94, 98, 96, 86, 90, 92, 62, 84



3. Two different surveys were given about the number of video devices in a household. The results of the surveys are shown below.



Survey A



Survey B

(a) Find the mean, median, mode, and range of each survey.

Survey A:
 Mean: 3.43
 Median: 3.5
 Mode: 4
 Range: 10

Survey B
 Mean: 6.27
 Median: 6
 Mode: 4 and 6
 Range: 13

(b) Which survey has the larger mean? B

(c) Which survey has the largest median? B

(d) Which survey has the largest mode? B

(e) Which survey has the largest range? B

A: 0, 0, 1, 1, 1, 1, 1, 2, 2, 2, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 4, 4, 5, 5, 5, 6, 6, 8, 10

B: 2, 2, 3, 3, 3, 4, 4, 4, 4, 4, 5, 5, 5, 5, 6, 6, 6, 6, 6, 7, 7, 8, 8, 8, 9, 10, 10, 11, 12, 15