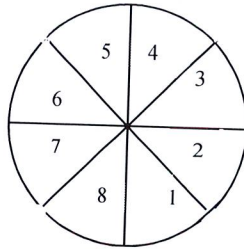


# HW#7 Unit 8 Data Analysis Test Review

Name: Key Period: \_\_\_\_\_

You are given the following spinner numbered 1 through 8 evenly spaced



1) If you spin the spinner once, what is the probability that you will spin:

a) P(6)  $\frac{1}{8} = .13$

b) P(a multiple 3 or 4)  $\frac{2}{8} + \frac{1}{8} = .38$

c) P(a number less than 4)  $\frac{3}{8} = .38$

d) P(10) 0

e) P(a one-digit number) 1

f) P(even or a "5")  $\frac{4}{8} + \frac{1}{8} = .63$

g) P(multiple of "3" and a number less than 5)  $\frac{1}{8} =$

$$\frac{2}{8} \cdot \frac{4}{8} = .13$$

2) A basketball player made 15 out of her last 21 free throws.

a) What is the probability she will make her next free throw?

$$\frac{15}{21} = .71$$

b) If she attempts 189 free throws for the season, how many free throws is she likely to make?

$$.71(189) = 134$$

c) Will the number of free throws she actually makes match your prediction? Why or why not?

Probably not, experimental doesn't usually match exactly

A bowl of M&M's contains 12 reds, 9 greens, and 14 yellows. Find the probability of each of the following:

$$12 + 9 + 14 = 35$$

3) If you pick one M&M, find:

a) P( green)  $\frac{9}{35} = .26$

b) P (not a red)  $\frac{23}{35} = .66$

c) P (red or green)  $\frac{12}{35} + \frac{9}{35} = .6$

d) P( green and yellow)  $\frac{9}{35} \cdot \frac{14}{35} = .10$

4) If you pick one M&M, eat it, then pick another one, find:

a) P( red then green)  $\frac{12}{35} \cdot \frac{9}{34} = .09$

b) P (both green)  $\frac{9}{35} \cdot \frac{8}{34} = .06$   
*green and green*

c) If both M&Ms are the same color, which color is the most likely? What is the probability that they are both this color?

*yellow,*  $\frac{14}{35} \cdot \frac{13}{34} = .15$

5) Kevin has a spinner that has 5 equal sections on it. One section is colored green, one section blue, one section red, one section purple and one section black. He spins the spinner 80 times and gets the following results:

Color on the spinner	green	blue	red	purple	black	Total
Frequency	20	18	14	15	13	80

a) What is the theoretical probability that the spinner will land on blue?

$$\frac{1}{5} = .2$$

b) Based on these experimental results in the table above, what is the probability the spinner will land on blue?

$$\frac{18}{80} = .23$$

c) What is the theoretical probability that the spinner will land on green?

$$\frac{1}{5} = .2$$

d) Based on these experimental results in the table above, what is the probability the spinner will land on green?

$$\frac{20}{80} = .25$$

e) What would you expect to happen to the experimental probability if you conducted more spins?

*The more you do the experiment, the closer the experimental probability gets to the theoretical probability*

6) Below are the number of students who play sports at a local high school. If one person is selected at random, find the following probabilities:

	Basketball	Volleyball	Swimming	Track	Total
Female	38	63	22	31	154
Male	29	45	35	28	137
Total	67	108	57	59	291

a. P(female)

$$\frac{154}{291} = .53$$

b. P(swimming)

$$\frac{57}{291} = .2$$

c. P(female and track)

$$\frac{31}{291} = .11$$

d. P(male or volleyball)

$$\frac{137}{291} + \frac{108}{291} - \frac{45}{291} = .69$$

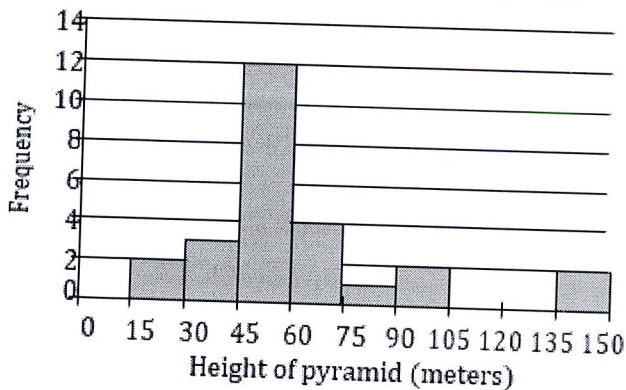
e. P(basketball given that he's male)

$$\frac{29}{137} = .21$$

f. P(swimming or volleyball)

$$\frac{57}{291} + \frac{108}{291} = .57$$

13



The histogram above shows the distribution of the heights, in meters, of 26 pyramids in Egypt. Which of the following could be the median height of the 26 pyramids represented in the histogram?

- A) 44 meters
- B) 48 meters**
- C) 63 meters
- D) 77 meters

14

The table below shows the number of calories in a cheeseburger at six different restaurants.

Calories in a Cheeseburger

Restaurant	Calories
Blue Jay	810
Clear Lake Cafe	900
Molly's	740
Riverside Diner	1,120
Maya's Bistro	1,050
Tom's Place	700

$$\frac{810 + 900}{2} = 855$$

Med: 855

What is the difference in the number of calories in a cheeseburger at the Riverside Diner and the median number of calories in cheeseburgers at all six restaurants?

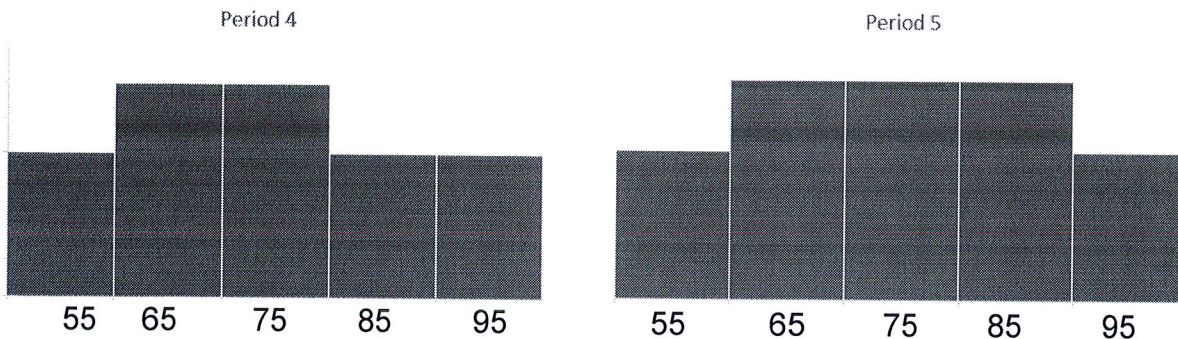
- A) 190
- B) 233
- C) 265**
- D) 390

$$1120 - 855$$

9. Your group of friends scored 68, 95, 72, 75, and 81 on a test. Find the following:

- a. Mean:  $\frac{68+95+72+75+81}{5} = 78$
- b. Median: 68, 72, 75, 81, 95 med=75
- c. Range:  $95-68 = 27$
- d. How many scored above the mean? 2 people

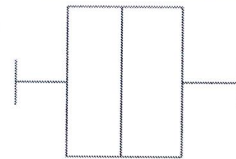
10. Below is are histograms showing test scores for two different classes.



- a. Which class has the greatest median? Explain. p5, more grades that are higher
- b. Which class has the greatest range? Explain. neither, same highest + lowest

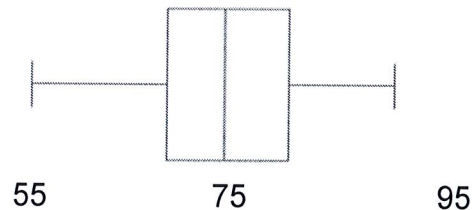
11. Below is are box and whisker plots showing test scores for two different classes. **The top graph is period 6, and the bottom graph is period 7.**

- a. Which class has the greatest median? Explain. neither, they are the same



- b. Which class has the greatest range? Explain.

p7, data is more spread out



12. A teacher raised student test scores by adding 10 points to each person's score.

- a. Explain how that effects the class mean. the mean will go up by 10 points
- b. Explain how that effects the class range. doesn't change, highest minus lowest will still be the same