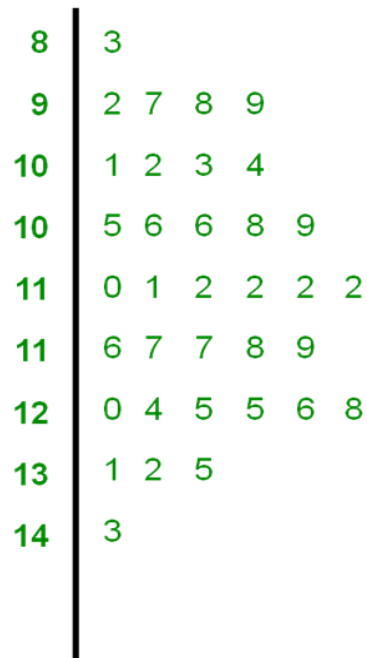


Statistics Final Review!

**Use the stem and leaf plot below to answer questions 1 and 2.



1. Find the mode, mean, and median for the stem and leaf plot.
2. What percent of people answered over 123? What about less than 100?

**Use the frequency table below to answer questions 3 and 4.

Classes	Frequency
$15 \leq x < 23$	9
$23 \leq x < 31$	7
$31 \leq x < 39$	5
$39 \leq x < 47$	4
$47 \leq x < 55$	5

n= 30

3. According to the frequency chart, what *proportion* of people said they are between 39 and 47 years old?
4. What *percentage* of people said they are between 15 and 23 years old?

**Use the frequency table below to answer questions 5-7.

Shoe Size				
		Frequency	Percent	Cumulative Percent
Valid	6.0	1	6.7	6.7
	6.5	2	13.3	20.0
	7.0	3	20.0	40.0
	7.5	2	13.3	53.3
	8.5	2	13.3	66.7
	9.0	1	6.7	73.3
	9.5	2	13.3	86.7
	10.5	2	13.3	100.0
	Total	15	100.0	

5. What *frequency* of people said 8.5?
6. What *proportion* of people said 9.0?
7. What *percentage* of people said 7.5?

8. Find the average number of hours I spend listening to *Glee* every day...
 3, 2, 1.5, 2, 3, 4, 2.75, 3.5, 1.2, 4.3, 1.6, 2, 3
9. What is the median for the number of hours I spend listening to *Glee*? ☺
10. Can you find the standard deviation for the number of hours?
11. Our first stats test had an average of 85 and a standard deviation of 6. Use the Empirical Rule to find the percentage of scores between 79 and 91.
12. For question 11, 95% of scores are between what?
13. Find the five number summary for the following list of house prices in the O'Connor area:
 145000, 150000, 162000, 173000, 129000, 155000, 137000, 148000, 167000, 182000
14. If I score a 73 on a test where the average is 65 and the standard deviation is 4 but my friend scores a 97 on a test where the average was 94 and the standard deviation was 2, who did better?
15. My z-score for a different test was -2. Did I score above or below average?
16. A scatter plot showing the number of cousins you have based on the number of uncles you have shows that $r = 0.89$. What is the percentage of variation?

17. Find the regression line for the following data:

Country	Per Capita GDP	Life Expectancy
Austria	21.4	77.48
Belgium	23.2	77.53
Finland	20.0	77.32
France	22.7	78.63
Germany	20.8	77.17
Ireland	18.6	76.39
Italy	21.5	78.51
Netherlands	22.0	78.15
Switzerland	23.8	78.99
United Kingdom	21.2	77.37

18. We have 300 people on a list and need to call 50 of them. Use the random number table below to tell me the first 5 people I would call.

TABLE 4.1 A Portion of a Table of Random Numbers

Line/ Col.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	10480	15011	01536	02011	81647	91646	69179	14194
2	22368	46573	25595	85393	30995	89198	27982	53402
3	24130	48360	22527	97265	76393	64809	15179	24830
4	42167	93093	06243	61680	07856	16376	39440	53537
5	37570	39975	81837	16656	06121	91782	60468	81305

19. $P(D) = .4$, $P(D \text{ and } E) = .1$, $P(D \text{ or } E) = .7$, What's $P(E)$?

20. $P(J) = .2$, $P(K) = .5$, $P(J \text{ and } K) = .15$, What's $P(J \text{ or } K)$?

21. $P(M) = .4$, $P(N) = .32$, $P(M \text{ or } N) = .6$, What's $P(M \text{ and } N)$?

22. What is the difference between response and non-response bias?
23. Twenty-three cats and 42 dogs are used in an experiment. 12 of the cats and 14 of the dogs respond negatively. What is the probability that the animal responded negatively given that it was a dog?
24. What is the difference between bimodal and unimodal?
25. Draw an example of skewed left and skewed right.
26. If the mean is 35 and the standard deviation is 4, what percentage is between 32 and 36?
27. For question 26, what percentage is above 31?
28. For question 26, what percentage is below 37?
29. I can shoot a bullseye with 72% accuracy. What is the chance that, out of 8 shots, I make 4 bullseyes?

**Use the table below to answer questions 30-33:

Gender\Hair Color→	Blonde	Brunette	Strawberry	Total
Male	24	38	7	69
Female	35	27	9	71
Total	59	65	16	140

30. What is the probability you are blonde?
31. What is the probability that you are brunette and female?
32. What is the probability you have blonde hair, given that you are female?
33. What is the probability you are male, given that you have strawberry hair?

Formula Bank:

$$Z = \frac{X - \mu}{\sigma}$$

normalcdf(min,max,μ,σ)

invNorm(percentile,μ,σ)

binompdf(n,p,x)

binomial: $P(x) = \frac{n!}{x!(n-x)!} p^x (1-p)^{n-x}$

$$\mu = n \cdot p$$

$$\sigma = \sqrt{n \cdot p(1-p)}$$

**Can you think of any other formulas I should provide for you??