PPDAC Review

1.	Causal or descriptive?: One variable	Descriptive
2.	Causal or descriptive?: Two variable	Causal
3.	Causal or descriptive?: Mean, median, mode	Descriptive
4.	Causal or descriptive?: Slope, Line of Best Fit	Causal
5.	Causal or descriptive?: Scatterplot	Causal
6.	Causal or descriptive?: Histogram	Descriptive
7.	Causal or descriptive?: R, R^2	Causal
8.	Causal or descriptive?: This Research Question: Does a good night's sleep cause improved test performance?	Causal
9.	Causal or descriptive?: This Research Question: How many students passed the test?	Descriptive
10.	What is the term for how many times the experiment was repeated?	Replication
11.	What is the term for how many people were in the study?	Replication
12.	What are the three sampling techniques?	Random Convenience Voluntary
13.	Which sampling technique is an internet survey?	Voluntary
14.	Which sampling technique has a self-selection bias?	Voluntary
15.	Which sampling technique goes to a place and samples whoever happens to be there?	Convenience
16.	Which sampling technique uses a computer to choose random locations and people for the study?	Random
17.	What three things prove causation?	Replication, Effective Sampling, Random Assignment

18.	Name the term for flipping a coin to assign participants to a control and experiment group?	Random Assignment
19.	If you DON'T use a control group and DON'T use random assignment, what error will your study have?	Placebo Effect
20.	The form of the Research Question for a Causal study.	Does an increase in X cause an increase in Y?
21.	The form of the Research Question for a Descriptive study.	How much of X is present?
22.	What is the Problem Unit?	One thing you hope the results apply to. Often, "a person"
23.	What is the plan unit?	One thing studied. Be SPECIFIC. Often "a person from <place> at <time>"
24.	If Coca Cola funds a study about beverages, what bias exists?	Bias Due to Funding.
25.	During the experiment, if the **researcher** knows who is in the control and in the experiment group, what bias occurs?	No Double Blinding
26.	During the experiment, if the **participant** knows who is in the control and in the experiment group, what bias occurs?	No Blinding
27.	What problem occurs when your subjects know you are watching?	Hawthorne Effect
28.	Define Hawthorne effect	The act of watching someone changes their behaviour.
29.	Define Placebo.	A sugar pill or medication that does nothing. Many people get better from a placebo (!?!).
30.	Name a pioneer in self-tracking.	Nicholas Felton

31. What is the name of a company that gathers internet data to profile individuals?	Data miner
32. What is an extremely important piece of information that data miners gather?	Device ID
33. What is r?	It is a value between -1 and 1. It represents how closely the points fit on the line of best fit.
34. If the r value is 1, how strong is the relationship?	Very strong.
35. If the r value is 0.8, how strong is the relationship?	Strong.
36. If the r value is 0.6, how strong is the relationship?	Moderate.
37. If the r value is 0.3, how strong is the relationship?	Weak.
38. If the r value is 0, how strong is the relationship?	No relation.
39. If the r value is positive, what is the direction of the line?	It is increasing. (Goes up)
40. If the r value is negative, what is the direction of the line?	It is decreasing. (Goes down)
41. What is r^2?	The percentage of the change in Y that is caused by X.
42. If r is 0.9, what is r^2?	0.9^2 = 0.81
43. R is the correlation _____	Coefficient
44. R^2 is the _____ of determination	CoeffICENT
45. What is the Excel formula to find the average of A1:A5?	= average (A1:A5)
46. What is the Excel formula to find the median of A1:A5?	= median (A1:A5)
47. What is the Excel formula to find the mode of A1:A5?	= mode (A1:A5)

48. What is the Excel formula to find the smallest value in A1:A5?	= min (A1:A5)
49. What is the Excel formula to find the largest value in A1:A5?	= max (A1:A5)
50. What is the Excel formula to find the slope of X:A1:A5, Y: B1:B5?	= slope(B1:B5, A1:A5)
51. What is the Excel formula to find the y intercept of X:A1:A5, Y: B1:B5?	= intercept(B1:B5, A1:A5)
52. What is the Excel formula to find the r of X:A1:A5, Y: B1:B5?	=correl(B1:B5, A1:A5)
53. What is the Excel formula to find the r^2 of X:A1:A5, Y: B1:B5?	=rsq(B1:B5, A1:A5)
54. What are the phases of PPDAC?	Problem, Plan, Data, Analysis, Conclusions
55. During PPDAC, when do you do calculations?	Analysis
56. During PPDAC, when do you measure things?	Data
57. During PPDAC, when do you run the experiment?	Data
58. During PPDAC, when do you find the research questions?	Problem
59. During PPDAC, when do you choose the variables?	Problem
60. During PPDAC, when do you make graphs?	Analysis
61. During PPDAC, when do you collect survey data?	Data
62. During PPDAC, when do you replicate the experiment?	Data