

# Excel Test

2003. 01. 14

1. The following are the market research of the company A and B between 1980 and 1989. If the given points larger, then its company occupied percent larger.

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
company A	78	38	28	63	41	37	42	35	63	33
company B	66	26	15	46	35	29	31	21	57	16

Find the sample mean and sample variance, with respect to company A and B.

2. The following data is a sample of 50 drink purchases by college students

Coke	Coffee	Coffee	Coke	Coke	Coke	Sprite	Coke	Coke	Pepsi
Tea	Tea	Sprite	Tea	Tea	Coke	Coffee	Coke	Tea	Coke
Pepsi	Pepsi	Coke	Sprite	Coke	Coke	Pepsi	Coke	Pepsi	Coffee
Coke	Pepsi	Tea	Coke	Sprite	Pepsi	Tea	Pepsi	Pepsi	Pepsi
Coke	Coke	Coke	Tea	Pepsi	Coke	Pepsi	Coffee	Pepsi	Sprite

Please sketch the histogram, pie graph, ogive and tabulate relative frequency, cumulative relative frequency, percent frequency.

3. The following observations are given for two variables.

X	30	50	40	55	30	25	60	25	50	55
Y	28	25	25	23	30	32	21	35	26	25

(a) Compute the population covariance for the above data.

(b) Compute the sample correlation coefficient.

4. Let X be a normal random variable with mean 4 and standard deviation 2

(a)  $P(0 \leq X \leq 2)$  (b)  $P(X \leq 6.3)$  (c)  $P(X \geq 1.2)$

5. The random variable X has the following probability distribution:

x	-100	0	50	100	150	200
f(x)	0.1	0.2	0.3	0.25	0.1	0.05

(a) Calculate *the expected value* of X

(b) Calculate *the standard deviation* of X