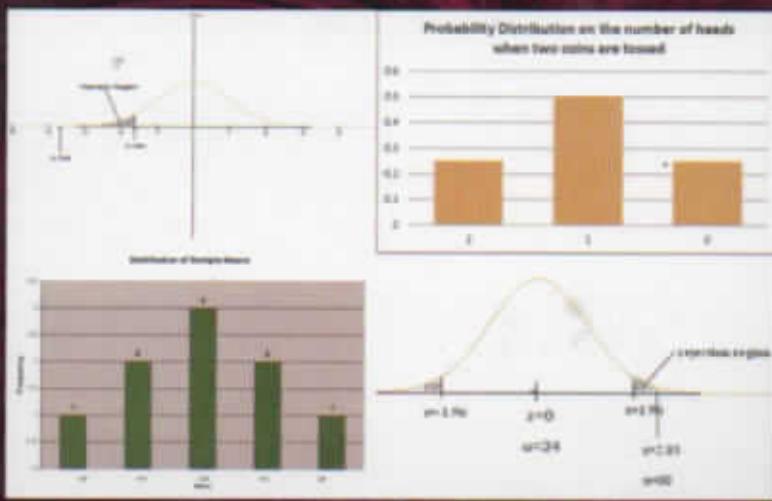


Statistics and Probability



SHS
519.2076
M264
2016
c-1

MILLARD R. MAMHOT, Ph.D.
ALICE A. MAMHOT, M.S.

Table of Contents

PREFACE	iii
Chapter I Random Variables and Probability Distributions	1
Chapter II Normal Distribution	41
Chapter III Sampling and Sampling Distributions	61
Chapter IV Estimation of Parameters	93
Chapter V Tests of Hypothesis	117
Chapter VI Correlation and Regression Analysis	143
REFERENCES	165
INDEX	167

most probability are frequently used in the analysis of data for scientific purposes. The second fundamental concept of statistics is that of sampling distributions. These distributions are important in drawing conclusions about the population from the sample. The third concept of probability is that of estimation of parameters. This concept is also important in drawing conclusions about the population from the sample. The fourth concept of probability is that of hypothesis testing. This concept is also important in drawing conclusions about the population from the sample. The fifth concept of probability is that of correlation and regression analysis. This concept is also important in drawing conclusions about the population from the sample.

The book is intended for students of statistics and for professionals working in the field of statistics. The book is also suitable for students of mathematics, physics, chemistry, and engineering. The book is also suitable for students of economics, business administration, and management. The book is also suitable for students of psychology, sociology, and other social sciences.

Index

A

Acceptance region 120
alternative hypothesis 118

B

Binomial random variable 101
blood glucose 113

C

Cardano 1
central limit theorem 85
Chevalier 1
cluster sampling 71
Combination 5
Confidence interval 94
Continuous random variable 32
correlation 143
cotinine 136
counting 2
Critical region 125

D

Data set 9
Discrete random variable 24

E

estimation 93
event 11
Expected value 27

H

Hemoglobin 126
Huygens 1

I

Independent events 13

L

level of significance 120
linear correlation 143
linear regression 150

M

mammogram 140
mean 41, 82
methods of sampling 63
Mutually exclusive events 13

N

normal distribution 41
NORMDIST 49
NORMINV 49
NORMSDIST 49
NORMSINV 49
NSCB 49
null hypothesis 118

O

One-tailed test 122

P

p-value 121
parameter 61
Pascal 1
Pearson product-moment correlation 143
permutation 2
population 61
probability 11
probability distribution 25
proportion 106

R

random 63
Random variable 23
randomness 63

red corpuscles 129
Rejection region 125
Relative frequency 24

S

sample 62
sample space 9
Sampling distribution 81
Scatter plot 149
scientific calculator 64
serum cholesterol 58
simple random sampling 63, 65
standard deviation 32
Standard normal curve 44
statistic 61
statistical experiment 8
stratified random sampling 63, 68
study population 61
systematic random sampling 63, 67
systolic blood pressure 162

T

target population 61
t-distribution 95
test statistic 125
t-table 97
Two-tailed test 122

V

Variance 30
variation 46

W

white corpuscles 129

Z

z-table 44
ZTEST 76

