## Index

A	Bar codes, 179	Bribery, 699
Ability grouping problem, 264–265	Bar graph, 64	Byte, 177
Accuracy, 10	Baseball problems, 99	2711, 277
Achievement tests, 544	Basketball study, 63, 676–678	C
Actual odds against/actual odds in favor, 143	Bayes' theorem, 184	Calculator. See Software/calculator results
Addition rule, 149–152, 163	Bell-shaped distribution, 103–104	Callbacks, 211
complementary events and, 152	Benford's law, 570–572	Cancer diagnosis, 171
errors in applying, 152	β, 392	Cancer study, 669
formal and intuitive, 151–152	Bias	Candy weight problem, 454
notation for, 149	interviewer, 715–716	Car crash problems, 136, 570
Adjusted coefficient of determination, 542	nonrespondent, 715	Card shuffles, 141
Adjusted Wald confidence interval,	publication, 8	Case-control study, 27, 28
335–336	sampling, 715–716	Categorical data. See Qualitative (categori
Advertising claims, 393, 458	social desirability, 29, 715	cal, attribute) data
Aircraft	volunteer, 716	Causality, vs. correlation, 9, 505
ceiling height problem, 263-264	Biased estimator, 98, 103, 105-106, 278	CD disc study, 545
engine reliability, 162	Biased sample, 675	Cell phone study, 413-415
passengers problem, 68–69	Bimodal data, 83	Cells, 615
seat design, 320	Binomial probability distribution, 210-228	Censored data, 94–95
seat safety, 571	binomial probability formula, 212-213,	Census, 5, 326
Airport baggage scales problem, 159	215–216	Center, measures of, 80-95
Alcohol research, nonrespondent bias in,	definition, 210	definition, 44, 81
715	independence requirement for, 211	mean. See Mean
$\alpha$ , 392	mean, variance, standard deviation,	median. See Median
Analysis of variance (ANOVA), 598-633.	223-228	midrange, 84-85
See also Variance(s)	normal distribution approximation,	mode, 83-84
critical values, 604	305-311	Centerline, 695
degrees of freedom, 606	notation, 211, 305	Central limit theorem, 284-296
experimental design, 607	parameters for, 223-228	applications, 286-290
F distribution, 600-601	Poisson distribution, 231	continuity correction, 305, 306
one-way, 601-614, 661	table of binomial probabilities to find, 215	finite population correction, 292
two-way, 614-625	technology, 213-215, 217	fuzzy, 289
Anonymity, in surveys, 715	testing a claim about a population	hypothesis testing, 290-291
Antivirus programs, 400-403	proportion, 400, 405-406	Cheating on tests, 394
Area, correspondence with probability, 246,	Binomial probability formula, 212-213,	Chebyshev's theorem, 104
247	215-216	Cherry picking, 715
Arithmetic mean. See Mean	Birthday problem, 160	Children Out of School in America, 9
Arterial plaques (clogged arteries) problem,	Bivariate normal distribution, 499	Children's Defense Fund, 9
416	Blinding, 29	Chi-square distribution, 361–371
Aspirin, 383	Block, randomized, 29-30	critical value, 362-364
Assignable variation, 694	Blood pressure problem, 671	hypothesis testing, 423-431, 432,
Athletic streaks study, 675	Boat overloading problem, 417–418	566-568
"At least one," probability of, 168–169	Body mass index problem, 327	properties of, 362, 424-425
Attributes, control charts for, 702-707	Body temperature problem, 643-644,	Chi-square test of homogeneity, 583
Autism, vaccines and, 716	652-653	"Chocolate Chip Cookies as a Teaching
Average(s), 83	Bone density test, 248-252, 254	Aid" (Lee), 79
data based on, 505	Bonferroni multiple comparison test,	Chocolate chips in cookies problem,
Average American, 81	608–610	79-80, 82, 83, 84, 96, 99, 105,
	Bootstrap resampling, 354, 376-377	112–113, 115–117, 118–120,
В	Boundary, class, 45	121–122, 350, 631
b <sub>1</sub> slope, 517–520	Boxplot (box-and-whisker diagram),	Chronological order problem, 177
Back-to-back relative frequency histograms,	118–120	Cigarette smoking problems, 137,
60, 73	modified, 121–122	140, 669
Back-to-back stemplots, 73	skeletal (regular), 121	second-hand smoke, 350-351