

- Citrus sugar study, 348
- Class, 44–45
 boundary, 45
 limit, 45–46
 midpoint, 45
 width, 45, 46
- Class size, 82
- Clinical trial problems, 24, 391, 543
- Cluster, 62
- Cluster sampling, 25, 26
- Coefficient of determination, 535–536
 adjusted, 542
 definition, 535
 multiple (R^2), 542, 543, 553
- Coefficient of variation, 105
- Cognitive tasks effects of color on, 441, 456–458, 479–481
- Cohort study, 27, 28
- Coincidence, 150
- Coin flip problem, 142, 203–204, 307–310
- Coke can filling problem, 290–291
- College rankings, 19
- College success study, 544
- Colors, effect on creativity and cognitive tasks, 441, 456–458, 479–481
- Column factor, 617
- Combinations rule, 175–180
- Commercials, 393
- Common Rule, 718
- Compact disc manufacturer, 545
- Complement, 168–169
- Complementary events, 140–141, 152
- Completely randomized design, 29, 30, 607
- Composite sampling, 176
- Compound event, 149
- Computer design problem, 177
- Conclusions, misleading, 9
- Condensed stemplots, 73
- Conditional probability, 168, 169–171
 intuitive approach to, 170–171
- Condominium prices, 542
- Confidence coefficient. *See* Confidence level (confidence coefficient, degree of confidence)
- Confidence interval (interval estimate), 324, 325–328, 442
 adjusted Wald, 335–336
 appropriate distribution for, 354
 bootstrap method, 376–377
 data comparison, description and exploration, 327, 350–353
 definition, 325
 dependent samples, 469, 471–472
 hypothesis testing, 327–328, 347–349, 365–368, 385, 393–394, 403, 417–418
 for inferences from two samples, 443, 446–448, 456, 460, 469
- interpretation, 326–327, 346
 margin of error, 335, 350, 351
 mean, 343–344, 346, 353–354, 417–418, 456, 458–459, 460
 overlapping, 351, 365
 point estimate, 335, 350
 prediction intervals, 532–539
 proportion, 324, 325–328, 330–333, 403, 405, 443, 446–448
 round-off rule, 330, 344
 standard deviation, 361, 364–368, 427–428
 two proportions, 443
 variance, 361, 364–368
 Wilson score, 336
- Confidence level (confidence coefficient, degree of confidence), 324, 325–328, 343–344
- Confidentiality, 715
- Conflicts of interest, 717
- Confounding, 29
- Confusion of the inverse, 171
- Consumer Reports*, 670
- Contingency tables, 565, 577–590
 definition, 577
 for different treatments, 577
 finding expected values E , 579–582
 Fisher exact test, 583
 McNemar test for matched pairs, 584–585
 test for independence, 577–582
 test of homogeneity, 583
- Continuity correction, 271, 305, 306, 309–310
- Continuous (numerical) data, 17–18
- Continuous probability distributions, 196
- Control charts, 692–713
 attributes, 702–707
 centerline, 695
 interpretation, 694, 697–698
 p chart, 702–707
 process data, 692–693
 R chart, 694–698
 run charts, 693–694
 upper/lower control limits, 695
 variation, 692–698
 \bar{x} (mean) chart, 698–700
- Convenience sample, 25, 26
- Coronary heart disease study, 395–396
- Corporate officials and committees problem, 179
- Correlation, 494–516
 causality *vs.*, 9, 505
 definition, 496
 errors, 505
 explained variation, 504–505
 linear correlation coefficient, 61, 496, 497–502
 linearity *vs.*, 505
 rank, 636, 667–674
 scatterplot, 497
- Correlation coefficient, 61
- Cost of Laughing Index, 115
- Count five method, 481
- Counting, 175–184
 combinations rule, 175–180
 factorial rule, 176, 177
 fundamental counting rule, 176, 177
 notation, 176
 permutations rule, 175–180
- County clerk ballot cheating problem, 381, 404–405, 437, 445
- Course grades, 19
- Creativity, effects of color on, 441, 456–458, 479–481
- Crest toothpaste study, 469
- Crimean War, 62
- Critical region (rejection region), 388–390
- Critical thinking
 ages of workers killed in the Triangle
 Factory fire, 491
 aircraft cockpit design, 438
 aircraft seat design, 320
 Allstate zodiac-accident relationship
 press release, 595
 axial load control, 712
 draft lottery, 687
 flight planning, 130
 beyond formulas, 80
 frequency distributions to understand data, 48–50
 fuel-saving device, 632
 going beyond formulas and manual calculations, 44
 interpreting histograms, 55–56
 measures of center, 80, 85–86
 medical test results, 192
 Mendel's hybridization experiments, 240
 multiple regression equation, 543
 poll results, 377
 replication as validation, 561
 six degrees of separation, 40
 survey results, 377
- Critical value, 254, 324, 328–329, 394
 ANOVA, 604
 Bonferroni multiple comparison test, 608
 chi-square distribution, 362–364
 definition, 254
 dependent samples, 468, 469
 goodness-of-fit test, 567
 hypothesis testing, 387, 389–390, 446, 455, 456, 457, 459, 468, 469, 480
 Kruskal-Wallis test, 662
 linear correlation, 506–510
 margin of error, 329
 mean, 412, 418–419
 proportion, 328–329, 402–403, 405
 rank correlation test, 668
 runs test for randomness, 676
 sample size and, 334