Example	Page	Title
1.1	6	Qualitative Analysis
1.2	7	Qualitative Analysis for Fluid Flow in a Pipe
1.3	9	Reduction in the Degrees of Freedom from a Dimensional Analysis
1.4	10	The Raleigh Method for Dimensional Analysis
1.5	13	The Raleigh Method Applied to an Ideal Gas
1.6	20	Partial Fraction Expansion
1.7	21	Function Shape Analysis
1.8	25	Contour Lines for $y = f(x_1, x_2)$
1.9	44	Determining Rank via Elementary Row Operations
1.10	50	Orthogonal Experimental Designs
1.11	56	Summation and Product Notation
1.12	57	Working with Averages
1.13	58	Calculation of Various Means
1.14	67	Calculation of Least Squares Coefficients
1.15	70	A Least Squares Approximation of a Continous Function
1.16	77	Constraining Least Squares Equations
1.17	78	Minimize ISE Subject to a Constraint
1.18	87	Spectral Representations: A Hermite Polynomial to Represent a Bimodal Distribution
2.1	130	Calculation of Resonant Frequency for a Quarter-Wave Resonator
2.2	132	Calculation of Resonant Frequency for a Helmholtz Resonator
2.3	136	Refinery Gas Combustion: Wet and Dry Oxygen Calculations
2.4	143	Determination of Moisture Content from Wet and Dry O2 Measurements
2.5	153	Calculations of F and e for Substoichiometric Combustion
2.6	155	An Example of a Non-Steady-State Mass Balance
2.7	162	Emissions Corrections to Specified Reference Conditions
2.8	162	Corrections to Various Bases
2.9	163	Invariance of Dilution-Corrected Emissions
2.10	170	Calculation of Adiabatic Flame Temperature
2.11	172	Adiabatic Flame Temperature with Preheated Air
2.12	176	Calculation of Draft Pressure
2.13	179	Calculation of Pressure Loss in a Burner
3.1	208	ANOVA for a Single-Factor Investigation
3.2	211	ANOVA for Several Model Effects
3.3	214	Construction of a 2 ³ Factorial Design
3.4	215	Construction of a 2 ³ Factorial Design, Binary Counting Method
3.5	226	Results for a 2 ³ Factorial Data Set
3.6	230	Interpretation of the Example 3.5 Coefficients
3.7	235	Factor Space and Model Form
3.8	238	Possible Mathematical Models from a Given Experimental Design
3.9	244	The Quarter Fraction in Five Factors
3.10	246	Genuine Replicates
3.11	266	Orthogonal Blocking of a 2 ³ Factorial Design
3.12	267	A 2 ³ Factorial in Two Blocks
3.13	270	A Simplex in Six Factors
3.14	285	Fractionating a 4 x 4 Factorial
3.15	289	Sequential Design

Example	Page	Title
4.1	299	Derivation of the Maclaurin Series for Two Factors
4.2	310	The Characteristic Equation Using the Trace Operator
4.3	312	Finding an Eigenvector from an Eigenvalue
4.4	321	Canonical Forms
4.5	334	Testing for Outliers
4.6	352	A Design with Multiple Blocks and Replicate Center Points
4.7	358	Constructing Experimental Sequences with Longest and Shortest Runtimes
4.8	379	Rows in the ANOVA for Nested Effects
4.9	394	Construction of a Simplex-Centroid in Five Components
4.10	405	Approximating a Refinery Fuel Gas with the Chemical Bond Method
5.1	431	Estimation of Chemical Kinetic Effects of Oxygen
5.2	434	Conversion of ppm to lb/MMBtu
5.3	437	Correcting NOx for Temperature
5.4	452	Calculations with FGR
5.5	455	Calculations with FIR
5.6	481	Calculation of y _{O2,bt}
5.7	492	Least Squares Normal Equations from Heat Flux Curves
5.8	497	Renormalization of a Heat Flux Curve
5.9	502	Heat Flux Extimates from Furnace Temperatures
5.10	527	Regression of Dew Point Elevation Data