

# Index

## Symbols and Numerics

\* (asterisk)  
 multiplication operator, 113  
 total, marking with, 67

^ (caret) exponentiation operator, 113

, (comma) field format string character, 233

\$ (dollar sign) field format string character, 233

= (equals sign)  
 formula prefix, 113  
 GETPIVOTDATA function shortcut character, 187, 192–193

>= (greater than sign, equals sign) greater than or equal to operator, 208

> (greater than sign) greater than operator, 208

<= (less than sign, equals sign) less than or equal to operator, 208

< (less than sign) less than operator, 208

- (minus sign) subtraction operator, 113

# (number sign) field format string character, 233

% (percent sign) field format string character, 233

. (period) field format string character, 233

+ (plus sign) addition operator, 113

" " (quotation marks) function argument delimiters, 185

; (semicolon) field format string character, 233

/ (slash) division operator, 113

3-D PivotChart, 147, 153–157, 161

## A

active status  
 PivotChart, 13  
 PivotTable, 8, 79

Add VBA method, 219

AddDataField VBA method, 222, 224–225, 228

AddFields VBA method, 222, 223–224

addition. *See* total

Application object, 242

asterisk (\*)  
 multiplication operator, 113  
 total, marking with, 67

AutoFilter feature, 19, 209

autoformatting, 66, 70–72, 74–76, 86

AutoShow feature, 105–107, 227, 231

AutoSort feature, 104, 107, 231

average, returning, 95, 97–98, 100, 201, 206

## B

background color, 73

Browse dialog box, 21

## C

calculated field  
 creating, 113–115, 229–230  
 deleting, 114  
 duration of PivotTable, existence limited to, 113  
 editing, 114  
 GETPIVOTDATA function, returned by, 187  
 metric conversion using, 116–118  
 OLAP support, 113, 232  
 PivotChart, 145  
 total, returning using, 113, 114, 120–122

calculated item, 119–123, 145, 187, 229–230, 242

CalculatedFields collection, 213

CalculatedItem object, 242

CalculatedMember object, 214, 242

CalculatedMembers collection, 214, 221, 242

caret (^) exponentiation operator, 113

category  
 field, 123, 140, 143  
 grouping category data, 132–135

cell  
 border, 67, 101  
 calculated item display in, 123  
 database cells, counting, 206  
 empty cell display, customizing, 68  
 field-linked, 73  
 formatting, 67, 72, 73  
 GETPIVOTDATA function  
 generating when cell clicked, 187–188  
 referencing cell in, 186, 187–190  
 PivotCell object, 242  
 referencing, 185, 186, 187–190  
 VBA, returning cell value using, 223

Chart Options dialog box, 256–257, 259, 260, 261

- chart, static. *See also* PivotChart
    - GETPIVOTDATA function, creating from data returned by, 191–194
    - PivotChart, changing to, 144
  - Chart Type dialog box, 146–147, 155
  - Chart Wizard, 193
  - Choose Columns dialog box, 33
  - Choose Data Source dialog box
    - accessing, 24
    - Databases tab, 25, 26, 32, 173
    - OLAP Cubes tab, 30, 179
    - Queries tab, 30
  - Classic format, 66, 70
  - Clothing Stock.xls file, 55
  - collection, 213. *See also specific collection*
  - color
    - background, 73
    - PivotChart, 144, 149, 247–248
  - column
    - drop area, 84
    - field
      - base item, 110
      - counting data items in, 100
      - creating PivotTable based on multiple column fields, 85–87
      - deviation, returning, 100
      - hierarchy, 229
      - inner/outer, 54, 84, 87, 125, 177
      - maximum/minimum value, returning, 100
      - multiplying value in, 100
      - number displayed, specifying, 67
      - PivotChart, 149, 151, 152–153, 156, 247
      - PivotField object for, returning using VBA, 221
      - report, adding to using VBA, 222
      - subtotal, returning, 100
      - variance, returning, 100
    - hiding, 86
    - layout, adding to, 62
    - percent calculation, 109
    - query, adding to, 173
    - report
      - database query, specifying column for, 33
      - multi-column report, creating, 9–12
      - width of report column, changing, 7
  - comma (,) field format string character, 233
  - consolidation range, 39–41, 43, 44, 47–54
  - context menu display, 65
  - copying
    - formula, 187
    - PivotTable, 194–195
    - report to current workbook, 238–239
  - counting
    - cells, 206
    - data items, 95, 96, 100
    - subtotal, values involved in, 201
  - CourseData.xls file, 50
  - Create New Data Source dialog box, 28–29
  - CreateCompletePivotTable VBA procedure, 226–227
  - CreatePivotTable VBA method, 219, 220
  - crosstab, 4, 209
  - CUB files, 178
  - cube file
    - creating, 172–178
    - creating PivotTable from, 179–182
    - data source, 172–173, 179, 240
    - dimension, 175–177
    - icon, 180
    - introduced, 30
    - level, 175–176, 177
    - measure, 172
    - multiple cube files, working with, 172
    - query, defining for, 173
    - retrieving data, 178
    - saving, 178
    - summary function support, 240
    - summary nature of, 172, 174, 180
    - updating, 178
  - CubeField object, 242
  - CubeFields collection, 242
  - currency formatting, 7, 38
  - CurrentRegion VBA property, 226
  - Customize dialog box, 188
- ## D
- Data ↔ Import External Data ↔ Import Data, 39
  - Data ↔ Import External Data ↔ New Web Query, 39
  - Data menu, 4, 142, 172
  - Data ↔ PivotTable and PivotChart Report, 32

- data series
  - field, 140, 143, 145, 152
  - number of, maximum, 161
  - PivotChart
    - axis, 144, 145
    - border, 247
    - color, 247–248
    - field, 140, 143, 145, 152
    - formatting, 245–249
    - label, 144, 258–259
    - legend, 144
    - line display, 248
    - marker display, 249
    - pattern, 257
- data source
  - database
    - connecting to, 25, 27–28
    - page field, querying external data source when selecting, 104
    - type of database, specifying, 27–28, 29
  - external
    - cube file, 172–173, 179, 240
    - display of raw data, 27
    - importing data, 39
    - linking to, 23–24
    - page field external data, working with, 103–104
    - password, 38
    - response time, 237–238
    - troubleshooting, 237–238
    - VBA, working with using, 219
    - Web page, 39
    - workbook, 20–22
    - XML, 39
  - location, specifying, 17–18, 26
  - multidimensional data, 30, 172–173, 179, 240
  - OLAP, 30, 104, 172–173, 179, 240
  - Windows, 30
  - workbook, 17–22
- database
  - cells, counting, 206
  - comparing numeric values in, 208
  - data source
    - connecting to, 25, 27–28
    - page field, querying external data source when selecting, 104
    - type of database, specifying, 27–28, 29
  - driver, 29, 104
  - filtering, 209–210
  - function, 206–208, 209
  - maximum/minimum value, returning, 206
  - multiplying value in, 206
  - query
    - background, 69
    - defining, 25–26, 30, 31–38, 173
    - page field, querying external data source when selecting, 104
  - relational
    - Excel support, 163
    - key, 162, 164
    - storage of multidimensional data in, 166, 170, 171
    - table relationship, 164–165, 166–168
  - report, creating from query, 31–38
  - sorting returned data, 25, 210
  - standard deviation of value in, returning, 206
  - table
    - dependent, 164–165, 166
    - primary, 164–165
    - query, adding to, 173
    - relationship, 164–165, 166–168
  - totaling values meeting specified criterion, 206, 207–208, 217
  - variance of data sample, returning, 206
  - VBA, working with using, 217
- date
  - formatting using VBA, 234
  - GETPIVOTDATA function, referencing in, 186
  - grouping date values, 130–132
- DAVERAGE function, 206
- DCOUNT function, 206
- DCOUNTA function, 206
- decimal places displayed, specifying, 98
- Define Name dialog box, 18
- deviation, standard, 100, 201, 206
- Dim VBA statement, 215
- dimension, data, 171, 176–177. *See also*
  - multidimensional data
- division, 113, 120
- DMAX function, 206
- DMIN function, 206
- dollar sign (\$) field format string character, 233
- DPRODUCT function, 206
- drilling down, 69, 107, 124, 182, 222

- drop area
    - column, 84
    - Data, 87–88
    - page, 90–91
    - row, 80–84
  - DSTDEV function, 206
  - DSTDEVP function, 206
  - DSUM function, 206
  - DVAR function, 206
  - DVARP function, 206
- E**
- EmployeeData.xls file, 47
  - equals sign (=)
    - formula prefix, 113
    - GETPIVOTDATA function shortcut character, 187, 192–193
  - error message, customizing, 67
  - exponentiation, 113, 120
  - Extensible Markup Language (XML) data source, 39
- F**
- field
    - adding
      - column field to report using VBA, 222
      - database query, to, 25, 26, 34, 37
      - dimension area, to, 176–177
      - page field to layout, 62
      - page field using VBA, 222
      - PivotChart, to, 11–12, 140
      - PivotTable, to, 7, 11, 80
      - report, to, 7, 11, 222, 223–225, 228
      - subtotal list, to, 200
    - base value, returning difference between raw value and, 110
    - calculated field
      - creating, 113–115, 229–230
      - deleting, 114
      - duration of PivotTable, existence limited to, 113
      - editing, 114
      - GETPIVOTDATA function, returned by, 187
      - metric conversion using, 116–118
      - OLAP support, 113, 232
      - PivotChart, 145
      - total, returning using, 113, 114, 120–122
      - caption, adding using VBA, 225
      - category field, 123, 140, 143
      - cell, field-linked, 73
      - column field
        - base item, 110
        - counting data items in, 100
        - creating PivotTable based on multiple column fields, 85–87
        - deviation, returning, 100
        - hierarchy, 229
        - inner/outer, 54, 84, 87, 125, 177
        - maximum/minimum value, returning, 100
        - multiplying value in, 100
        - number displayed, specifying, 67
        - PivotChart, 149, 151, 152–153, 156, 247
        - PivotField object for, returning using VBA, 221
        - report, adding to using VBA, 222
        - subtotal, returning, 100
        - variance, returning, 100
      - data series field, 140, 143, 145, 152
      - detail display, 124–127
      - formatting, 73, 95, 233–234
      - hiding, 95, 102–103, 127, 145–146, 230
      - icon, 80
      - inner/outer, 54–58, 82–84, 87, 125–126, 177
      - layout, 62, 87, 100–102
      - maximum/minimum value in, returning, 95, 97, 98, 100
      - name
        - assigning, 95, 102, 113
        - duplicate, 175
      - number of fields, maximum, 161
      - orientation, 227, 229
      - page field
        - adding to layout, 62
        - adding using VBA, 222
        - data source, working with external, 103–104
        - disabling pivoting in, 104
        - empty page field display, 102
        - filtering based on, 41, 44, 46, 49, 93–94
        - GETPIVOTDATA function, using with, 188–189
        - hiding, 102, 103
        - inner/outer, 54
        - naming, 102
        - number of page fields, maximum, 161

- PivotField object for, returning
  - using VBA, 222
- report, basing on each page field item
  - using VBA, 223
- report, basing on multiple page fields, 40–41, 44–47, 50–54, 67, 91–94
- report, basing on single, 40, 42–43, 45, 47–50
- subtotal, returning, 102
- PivotChart
  - adding field to, 11–12, 140, 143
  - calculated field, 145
  - category field, 123, 140, 143
  - changing field setting, 145
  - column, 149, 151, 152–153, 156, 247
  - data series field, 140, 143, 145, 152
  - hiding, 145–146
  - list display, 13, 140
  - row field, 140, 148, 149–152, 156
- PivotField object
  - AddDataField method, 228
  - AutoShowCount property, 227
  - AutoSort method, 231
  - column field, returning PivotField object for, 221
  - CurrentPageList property, 243
  - data field, returning PivotField object for, 221
  - DatabaseSort property, 243
  - described, 213
  - EnableItemSelection property, 243
  - HiddenItemList property, 243
  - IsMemberProperty property, 243
  - Orientation property, 227, 229
  - page field, returning PivotField object for, 222
  - PropertyOrder property, 243
  - PropertyParentField property, 243
  - row field, returning PivotField object for, 222
  - StandardFormula property, 243
- pivoting, role in, 57
- positioning, 87, 229
- property field, 127–128
- removing from PivotTable, 80
- report
  - adding field using VBA, 222, 223–225, 228
  - adding field via dragging from Field List, 7, 11
  - page field, basing on each item in
    - using VBA, 223
  - page field, basing on single, 40, 42–43, 45, 47–50
  - page fields, basing on multiple, 40–41, 44–47, 50–54, 67, 91–94
- row field
  - counting data items in, 100
  - creating PivotTable based on multiple row fields, 85–87
  - deviation, returning, 100
  - drop area, using multiple row fields in, 82–84
  - hierarchy, 229
  - inner/outer, 54–58, 82–84, 87, 125–126, 177
  - layout, 100–102
  - maximum/minimum value, returning, 100
  - multiplying value in, 100
  - PivotChart, 140, 148, 149–152, 156
  - report, adding to using VBA, 222
  - subtotal, returning, 83–84, 100
  - variance, returning, 100
- size limitation, 161
- sorting, 104–105, 106–107
- source field, 95, 176
- summarizing, 88–89, 95–99, 107
- total
  - adding field to subtotal list, 200
  - column field subtotal, 100
  - cube field data, 174–175, 180–181
  - formula in calculated field/item, using, 113, 114, 120–122
  - page field subtotal, 102
  - row field subtotal, 83–84, 100
- VBA
  - calculated field, working with, 229–230, 232
  - caption, adding, 225
  - column field, returning PivotField object for, 221
  - data field, returning PivotField object for, 221
  - dragging field disabled by, 239
  - formatting, 233–234

*continued*

- VBA *continued*
    - hiding field, 230
    - page field, returning `PivotField` object for, 222
    - positioning field, 229
    - referencing field, 225
    - report field, adding, 222, 223–225, 228
    - row field, returning `PivotField` object for, 222
  - Field List
    - accessing, 8, 79
    - dragging field from, 7, 11, 80
    - PivotChart, 13, 140
  - Field Settings dialog box, 73, 97, 107, 145
  - filtering
    - alternative to PivotTable, as, 194, 210
    - AutoFilter, 19, 209
    - copied PivotTable, 194
    - database, 209–210
    - page field, based on, 41, 44, 46, 49, 93–94
    - PivotChart, 144
    - report, basing on filtered data, 19, 41, 44, 46, 49
    - VBA, working with in, 228
  - flat data, 162
  - font, 73, 253
  - Format Axis dialog box
    - accessing, 249
    - Alignment tab, 254–255
    - Font tab, 253
    - Number tab, 254
    - Patterns tab, 252–253
    - Scale tab, 250
  - Format Cells dialog box, 72–73
  - Format Data Series dialog box, 247, 248, 259
  - Format VBA method, 223
  - formatting
    - autoformatting, 66, 70–72, 74–76, 86
    - cell, 67, 72, 73
    - Classic, 66, 70
    - conditional, 67
    - currency, 7, 38
    - field, 73, 95, 233–234
    - font, 73, 253
    - indentation, 70–72
    - number, 72–73, 95, 98, 233–234, 254
  - PivotChart
    - axis, 249–255
    - changing default format, 147
    - changing underlying PivotTable, considerations when, 158
    - data series, 245–249
    - resetting to default format, 147
  - Preserve Formatting option, 67, 73, 86, 222, 239
  - removing all, 66
  - report, 74–76, 239
  - troubleshooting, 239
  - VBA, applying using, 223, 233–234
- Formatting toolbar, 7
- formula
  - copying, 187
  - item, calculated, 119–123, 145, 187, 229–230
  - OLAP support, 113
  - PivotChart, displaying in, 145
  - `PivotFormula` object, 214, 222, 243
  - `PivotFormulas` collection, 214
  - VBA, working with using, 222, 223
- function, database, 206–208, 209. *See also specific function*
- ## G
- GetData VBA method, 223
  - GETPIVOTDATA function
    - calculated field/item returned by, 187
    - cell
      - generating GETPIVOTDATA function when clicked, 187–188
      - referencing, 186, 187–190
    - chart, creating from data returned by, 191–194
    - date, referencing, 186
    - detail display, effect on, 190–191
    - = (equals sign) shortcut for entering, 187, 192–193
    - formula containing, copying, 187
    - OLAP, using with, 189–190, 191
    - page field, using with, 188–189
    - range, referencing, 187
    - #REF message returned by, 186
    - syntax, 185
    - total, returning using, 186
  - GetPivotData VBA method, 223
  - GetPivotTableReference procedure, 216
  - greater than sign, equals sign (>=) greater than or equal to operator, 208

greater than sign (>) greater than operator, 208

#### grouping

- category data, 132–135
- dates, 130–132
- numeric items, 128–132
- subtotal, calculating for group, 132–135
- time values, 130
- ungrouping, 119

## H

#### hiding

- button, 63–64
- column, 86
- field, 95, 102–103, 127, 145–146, 230
- PivotTable toolbar, 63
- row, 8, 98–99

hierarchical data. *See* multidimensional data

## I

- icon, field, 80
- importing data, 39
- indentation, 70–72
- Insert Calculated Field dialog box, 113, 114, 116
- Insert Calculated Item dialog box, 119–120
- Insert ⇄ Name ⇄ Define, 18

#### item

- calculated, 119–123, 145, 187, 229–230, 242
- counting data items, 95, 96, 100
- field base item, 110
- grouping numeric items, 128–132
- PivotItem object, 213, 243
- PivotItems collection, 213, 242

## L

#### label

- field caption, adding using VBA, 225
- merging, 66
- page, repeating on each, 67

#### layout

- element, adding/removing, 62
- field, 62, 87, 100–102
- line, inserting blank, 102
- outline, 101
- page, 62, 67, 68
- response time, improving using, 238
- saving data with, 69

subtotal, adding to, 101

- tabular, 101
- troubleshooting, 239
- VBA, defining using, 218

Layout dialog box, 61–62

less than sign, equals sign (<=) less than or equal to operator, 208

less than sign (<) less than operator, 208

level, multidimensional data, 171, 175–176, 177

line, inserting blank, 102

#### linking data

- cell, field-linked, 73
  - copied PivotTable, 194
  - data source, external, 23–24
  - database, relational, 162–163
  - key field, 162, 164
  - PivotChart, report linkage to, 11, 139, 144
  - refreshing linked PivotTable, 22
- list, creating PivotTable based on using VBA, 219–221
- ListFormulas VBA method, 223
- Location VBA method, 235

## M

#### math

- average, returning, 95, 97–98, 100, 201, 206
- database values, comparing, 208
- decimal places displayed, specifying, 98
- division, 113, 120
- exponentiation, 113, 120
- field base value, returning difference between raw value and, 110
- grouping numeric items, 128–132
- item, calculated, 119–123, 145, 187, 229–230
- maximum/minimum value, returning
  - database, 206
  - field, 95, 97, 98, 100
  - subtotal calculation, value involved in, 201
- metric conversion, 116–118
- multiplication, 95, 100, 114, 201, 206
- percentage, 108–109, 110, 113, 135, 230
- standard deviation, 100, 201, 206
- subtraction, 110, 113, 120
- total
  - alternative to PivotTable, subtotal as, 205
  - \* (asterisk), marking with, 67
  - averaging subtotals, 201

*continued*

math *continued*

- column field subtotal, returning, 100
- counting values involved in subtotal, 201
- cube field data, 174–175, 180–181
- database values meeting specified criterion,
  - returning for, 206, 207–208, 217
- detail display, subtotal, 205
- field, adding to subtotal list, 200
- formula in calculated field/item, returning using,
  - 113, 114, 120–122
- GETPIVOTDATA function, returning using, 186
- grand total, 66, 217, 221, 222
- group item subtotal, 132–135
- hidden items, including in subtotal, 66
- layout, adding subtotal to, 101
- maximum/minimum value involved in subtotal,
  - returning, 201
- nesting subtotal, 202–204
- page break, placing between subtotal
  - groups, 200
- page field subtotal, returning, 102
- product of values involved in subtotal,
  - returning, 201
- range, removing subtotal from, 201
- replacing existing subtotal, 200
- report, displaying subtotal when creating, 19
- row field subtotal, returning, 83–84, 100
- running total, 109–110
- sorting before subtotal calculation, 199, 202, 203
- standard deviation of values involved in subtotal,
  - returning, 201
- summary display, subtotal, 200, 203
- variance of values involved in subtotal,
  - returning, 201
- variance, returning, 100, 201, 206
- maximum/minimum value, returning
  - database, 206
  - field, 95, 97, 98, 100
  - subtotal calculation, value involved in, 201
- measure, multidimensional data, 172
- member, multidimensional data, 171
- memory
  - optimizing, 69, 238
  - PivotCache object, 219, 242
  - PivotCaches collection, 219
- Merge Labels feature, 66

- metric conversion, 116–118
- minus sign (-) subtraction operator, 113
- multidimensional data. *See also* OLAP (Online Analytical Processing)
  - data source, 30, 172–173, 179, 240
  - database, storage in, 166, 170, 171
  - described, 164
  - field, adding to dimension area, 176–177
  - flat data compared, 162
  - hierarchy, data, 171, 177
  - level, 171, 175–176, 177
  - measure, 172
  - member, 171
  - relational data compared, 162–163
- multiplication, 95, 100, 114, 201, 206

**N**

## naming

- field name
  - assigning, 95, 102, 113
  - duplicate, 175
- PivotTable, 62
- range, 18
- non-relational data, 162
- Northwind.mdb file, 31
- number
  - formatting, 72–73, 95, 98, 233–234, 254
  - grouping numeric items, 128–132
- number sign (#) field format string character, 233

**O**

- object model, 213–214, 252–253
- OLAP (Online Analytical Processing). *See also* multidimensional data
  - analysis done by, 161
  - calculated field/item support, 113, 232
  - cube file
    - creating, 172–178
    - creating PivotTable from, 179–182
    - data source, 172–173, 179, 240
    - dimension, 175–177
    - icon, 180
    - introduced, 30
    - level, 175–176, 177
    - measure, 172
    - multiple cube files, working with, 172

- query, defining for, 173
- retrieving data, 178
- saving, 178
- summary function support, 240
- summary nature of, 172, 174, 180
- updating, 178
- data source, 30, 104, 172–173, 179, 240
- detail, displaying, 126–128, 182
- dimension, 175–177
- drilling down, 182
- formula support, 113
- GETPIVOTDATA function, using with, 189–190, 191
- hierarchy, data, 161, 177
- level, 175–176, 177
- property field display, 127–128
- server, 170
- summary used, specifying, 174
- troubleshooting, 239, 240
- Online Analytical Processing. *See* OLAP
- Options dialog box
  - accessing, 62, 65
  - Autoformat Table option, 66, 72, 74, 86
  - Background Query option, 69
  - Data Options area, 68–69
  - Enable Drill To Details option, 69, 124
  - Fields Per Column option, 67
  - For Empty Cells Show option, 68
  - For Error Values Show option, 67
  - Format Options area, 66–68
  - Grand Totals option, 66
  - Mark Totals With \* option, 67
  - Merge Labels option, 66
  - Name area, 65
  - Optimize Memory option, 69, 238
  - Page Layout option, 67
  - PivotChart options, 145
  - Preserve Formatting option, 67, 73, 86, 239
  - Refresh Every ... Minutes option, 69
  - Refresh On Open option, 69
  - Repeat Item Labels On Each Printed Page option, 67
  - Save Data With Table Layout option, 69
  - Save Password option, 69
  - Set Print Titles option, 68
  - Subtotal Hidden Page Items option, 66
- .oqy files, 178
- outline
  - layout, 101
  - section, 205
- P**
- page
  - break, 102, 200
  - drop area, 90–91
  - field
    - adding to layout, 62
    - adding using VBA, 222
    - data source, working with external, 103–104
    - disabling pivoting in, 104
    - empty page field display, 102
    - filtering based on, 41, 44, 46, 49, 93–94
    - GETPIVOTDATA function, using with, 188–189
    - hiding, 102, 103
    - inner/outer, 54
    - naming, 102
    - number of page fields, maximum, 161
    - PivotField object for, returning using VBA, 222
    - report, basing on each page field item using VBA, 223
    - report, basing on multiple page fields, 40–41, 44–47, 50–54, 67, 91–94
    - report, basing on single page field, 40, 42–43, 45, 47–50
    - subtotal, returning, 102
    - label, repeating on each, 67
    - layout, 62, 67, 68
    - printing, 67, 68
  - password
    - data source, external, 38
    - workbook, saving with, 69
  - Paste Special dialog box, 195
  - percent sign (%) field format string character, 233
  - percentage, calculating, 108–109, 110, 113, 135, 230
  - period (.) field format string character, 233
  - PivotCache object, 219, 242
  - PivotCaches collection, 219
  - PivotCell object, 242, 243

- PivotChart
  - active status, 13
  - axis
    - alignment, 254–255
    - category axis, 145, 249, 252
    - color, 252
    - data series, 144, 145
    - display unit, 251
    - font, 253
    - formatting, 249–255
    - inverting value display order, 252
    - number display, customizing, 254
    - pattern, applying to, 252–253
    - scale, 250–252
    - title, 145, 256–257
    - value axis, 249, 252
  - color, 144, 149, 247–248
  - data item
    - adding, 140, 143
    - calculated item, 145
  - data label, 258–259
  - data series
    - axis, 144, 145
    - border, 247
    - color, 247–248
    - field, 140, 143, 145, 152
    - formatting, 245–249
    - label, 144, 258–259
    - legend, 144
    - line display, 248
    - marker display, 249
    - pattern, 257
  - data table display, 260–261
  - described, 12, 139
  - drop shadow, 247, 249
  - field
    - adding, 11–12, 140, 143
    - calculated field, 145
    - category field, 123, 140, 143
    - changing field setting, 145
    - column, 149, 151, 152–153, 156, 247
    - data series field, 140, 143, 145, 152
    - hiding, 145–146
    - list display, 13, 140
    - row field, 140, 148, 149–152, 156
  - filtering, 144
  - formatting
    - axis, 249–255
    - changing default, 147
    - changing underlying PivotTable, considerations
      - when, 158
    - data series, 245–249
    - resetting to default, 147
  - formula in, displaying, 145
  - gridline display, 259–260
  - introduced, 3
  - legend, 144, 145, 257
  - Options dialog box options, 145
  - pattern, 247, 248, 252–253
  - placement, 141
  - plot area, 144
  - previewing, 147
  - printing, 248
  - refreshing, 145, 151
  - report
    - creating PivotChart based on, 11, 13, 139–144
    - linkage to PivotChart, 11, 139, 144
    - relation to PivotChart, 13, 139, 140
  - size limitation, 161
  - static chart, changing PivotChart to, 144
  - 3-D, 147, 153–157, 161
  - title, 144, 145, 256–257
  - type, changing, 146–147, 155
  - VBA, creating using, 235
- PivotChart menu, 140, 145–146
- PivotChart toolbar, 140
- PivotField object
  - AddDataField method, 228
  - AutoShowCount property, 227
  - AutoSort method, 231
  - column field, returning PivotField
    - object for, 221
  - CurrentPageList property, 243
  - data field, returning PivotField object for, 221
  - DatabaseSort property, 243
  - described, 213
  - EnableItemSelection property, 243
  - HiddenItemList property, 243
  - IsMemberProperty property, 243
  - Orientation property, 227, 229
  - page field, returning PivotField object for, 222
  - PropertyOrder property, 243

- PropertyParentField property, 243
- row field, returning PivotField object for, 222
- StandardFormula property, 243
- PivotFields VBA method, 223
- PivotFormula object, 214, 222, 243
- PivotFormulas collection, 214
- pivoting
  - described, 3
  - field role in, 57
- PivotItem object, 213, 243
- PivotItems collection, 213, 242
- PivotSelect VBA method, 223
- PivotTable and PivotChart Wizard
  - accessing, 5
  - Another PivotTable or PivotChart Report
    - option, 54
  - Browse button, 21
  - Create a Single-Page Field option, 48
  - Database option, 20, 91
  - External Data Source option, 23, 179
  - Get Data button, 23
  - I Will Create the Page Fields option, 51
  - Layout button, 61
  - Microsoft Excel List option, 20
  - multi-column PivotTable, creating using, 9–12
  - Multiple Consolidation Ranges option, 47, 51
  - New Worksheet option, 48, 91
  - Next button, 6
  - Options button, 61, 62
  - PivotChart report option, 139–140
  - Range box, 6, 10, 19
  - report, creating using, 5–7
  - Select button, 6, 17
- PivotTable Field Advanced Options dialog box, 103–107
- PivotTable Field dialog box
  - accessing, 94
  - Advanced button, 99, 100, 103, 107–108
  - Field button, 94
  - Hide button, 95, 99, 102
  - Hide items area, 103
  - Layout button, 100
  - Name area, 95, 99, 102
  - Number button, 95
  - Options button, 95, 107
  - Show items with no data option, 100, 102

- Source field area, 95
- Subtotals area, 100, 102
- Summarize by area, 95
- PivotTable Field Layout dialog box, 100–101
- PivotTable menu, 64–65, 144
- PivotTable object, 213, 221–223, 243
- PivotTable toolbar, 7, 11, 22, 63–64
- PivotTableCloseConnection event, 244
- PivotTableOpenConnection event, 244
- PivotTables collection, 213, 215
- PivotTableWizard VBA method, 217
- plus sign (+) addition operator, 113
- population variance, 100, 206
- pop-up menu display, 65
- positioning
  - field, 87, 229
  - PivotTable, 7
  - PivotTable toolbar, 63
- printing
  - page, 67, 68
  - PivotChart, 248
- Property Fields dialog box, 127

## Q

- query
  - database query
    - background, 69
    - defining, 25–26, 30, 31–38, 173
    - page field, querying external data source when selecting, 104
  - Web query, 39
- Query Wizard, 25–26, 33–35, 173
- quotation marks (" ") function argument delimiters, 185

## R

- range
  - consolidation range, 39–41, 43, 44, 47–54
  - GETPIVOTDATA function, referencing in, 187
  - naming, 18
  - page field, consolidating in
    - multiple page fields, 40–41, 44–47, 50–54, 67, 91–94
    - single page field, 40, 42–43, 45, 47–50
  - report, 6, 39, 41–43, 223, 226
  - specifying, 6, 10, 17–18, 19, 20
  - subtotal, removing, 201

- #REF message, 186
  - referencing
    - cell, 185, 186, 187–190
    - field using VBA, 225
    - GETPIVOTDATA function, in, 186, 187–190
    - PivotTable using VBA, 215–216, 219
  - refreshing
    - copied PivotTable, 194
    - interval, specifying, 69
    - linked PivotTable, 22
    - PivotChart, 145, 151
    - report using VBA, 223
    - workbook opening, upon, 69
  - RefreshTable VBA method, 223
  - relational data, 162–163
  - report
    - column
      - multi-column report, creating, 9–12
      - width, changing, 7
    - creating based on another report, 54
    - crosstab table, converting to, 4
    - database query, creating from, 31–38
    - field
      - adding, 7, 11, 222, 223–225, 228
      - page field, basing report on each item in using VBA, 223
      - page field, basing report on single, 40, 42–43, 45, 47–50
      - page fields, basing report on multiple, 40–41, 44–47, 50–54, 67, 91–94
    - filtering, basing on, 19, 41, 44, 46, 49
    - formatting, 74–76, 239
    - PivotChart
      - creating based on report, 11, 13, 139–144
      - linkage to report, 11, 139, 144
      - relation to report, 13, 139, 140
    - PivotTable and PivotChart Wizard, creating using, 5–7
    - range, 6, 39, 41–43, 223, 226
    - removing unneeded element, 43
    - row, displaying/hiding, 8, 98–99
    - subtotal, displaying when creating, 19
    - summary report, 54
    - troubleshooting, 238–239
  - VBA, working with using
    - field, adding, 222, 223–225, 228
    - range, returning, 223, 226
    - refreshing report, 223
    - selecting portion of report, 223
    - workbook, copying to current, 238–239
  - RiverHeights.xls file, 114
  - row
    - calculated item display in, 123
    - data display in, 17
    - drop area, 80–84
    - field
      - counting data items in, 100
      - creating PivotTable based on multiple row fields, 85–87
      - deviation, returning, 100
      - drop area, using multiple row fields in, 82–84
      - hierarchy, 229
      - inner/outer, 54–58, 82–84, 87, 125–126, 177
      - layout, 100–102
      - maximum/minimum value, returning, 100
      - multiplying value in, 100
      - PivotChart, 140, 148, 149–152, 156
      - report, adding to using VBA, 222
      - subtotal, returning, 83–84, 100
      - variance, returning, 100
    - hiding, 8, 98–99
    - layout, adding to, 62
    - percent calculation, 109
- ## S
- SalesBySalesRep.xls file, 105, 124
  - SalesData\_Multidimensional Data.mdb file, 173
  - SalesProjections.xls file, 120
  - sample variance, 100, 206
  - saving
    - cube file, 178
    - layout, data with, 69
    - password with workbook, 69
  - Select Database dialog box, 32
  - selecting entire PivotTable, 144
  - semicolon (;) field format string character, 233
  - series, data. *See* data series

Set VBA statement, 215  
 SetSourceData VBA method, 235  
 ShowPages VBA method, 223  
 size limitation, 161  
 slash (/) division operator, 113  
 Sort dialog box, 202, 203  
 sorting  
   AutoSort feature, 104, 107, 231  
   database, data returned from, 25, 210  
   field, 104–105, 106–107  
   subtotal calculation, sorting before, 199, 202, 203  
 SportingGoodsRawData.xls file, 5, 141  
 standard deviation, 100, 201, 206  
 subtotal. *See* total, subtotal  
 Subtotal dialog box, 199–200  
 subtraction, 110, 113, 120  
 Sum VBA function, 225  
 SurveyResults3.xls file, 153  
 SurveyResults2.xls file, 132

## T

Table Options dialog box, 215  
 tabular layout, 101  
 TestScores2.xls file, 96  
 TestScores.xls, 85  
 TestScores.xls file, 125  
 3-D PivotChart, 147, 153–157, 161  
 ThreePageFields.xls file, 91  
 time  
   grouping time values, 130  
   response time, improving using layout, 238  
 total  
   \* (asterisk), marking with, 67  
   cube field data, 174–175, 180–181  
   database values meeting specified criterion,  
     returning for, 206, 207–208, 217  
   formula in calculated field/item, returning using,  
     113, 114, 120–122  
   GETPIVOTDATA function, returning using, 186  
   grand total, 66, 217, 221, 222  
   running total, 109–110  
   subtotal  
     alternative to PivotTable, as, 205  
     averaging subtotals, 201  
     column field subtotal, returning, 100  
     counting values involved, 201

detail display, 205  
 field, adding to subtotal list, 200  
 group item subtotal, 132–135  
 hidden items, including, 66  
 layout, adding to, 101  
 maximum/minimum value involved,  
   returning, 201  
 nesting, 202–204  
 page break, placing between subtotal  
   groups, 200  
 page field subtotal, returning, 102  
 product of values involved, returning, 201  
 removing from range, 201  
 replacing existing, 200  
 report, displaying when creating, 19  
 row field subtotal, returning, 83–84, 100  
 sorting before calculation, 199, 202, 203  
 standard deviation of values involved,  
   returning, 201  
 summary display, 200, 203  
 variance of values involved, returning, 201

## U

update event, 244  
 updating. *See* refreshing

## V

variance, returning, 100, 201, 206  
 VBA (Visual Basic for Applications)  
   Add method, 219  
   AddDataField method, 222, 224–225, 228  
   AddFields method, 222, 223–224  
   AutoShow method, 231  
   AutoSort method, 231  
   calculated field/item, working with, 229–230, 232  
   cell value, returning, 223  
   CreateCompletePivotTable procedure,  
     226–227  
   CreatePivotTable method, 219, 220  
   creating PivotTable, 216–221, 225–227  
   CurrentRegion property, 226  
   data source, external, 219  
   database, working with, 217  
   date, formatting, 234  
   Dim statement, 215  
   drill-down, enabling, 222

*continued*

VBA (Visual Basic for Applications) *continued*

field

- calculated field, working with, 229–230, 232
- caption, adding, 225
- column field, returning `PivotField` object for, 221
- data field, returning `PivotField` object for, 221
- dragging disabled, 239
- formatting, 233–234
- hiding, 230
- page field, returning `PivotField` object for, 222
- positioning, 229
- referencing, 225
- report field, adding, 222, 223–225, 228
- row field, returning `PivotField` object for, 222

filter, working with, 228

format, applying, 223, 233–234

formula, working with, 222, 223

`GetData` method, 223

`GetPivotData` method, 223

heading label for grand total, specifying using, 222

layout, defining, 218

list, creating `PivotTable` based on, 219–221

`ListFormulas` method, 223

`Location` method, 235

object model, 213–214

`PivotCache` object, working with, 219

`PivotChart`, creating, 235

`PivotFields` method, 223

`PivotSelect` method, 223

`PivotTable` object, 213, 221–223, 243

`PivotTableWizard` method, 217

Preserve Formatting status, testing, 222

referencing `PivotTable`, 215–216, 219

`RefreshTable` method, 223

report

- field, adding, 222, 223–225, 228
- range, returning, 223, 226
- refreshing, 223
- selecting portion of, 223

`Set` statement, 215

`SetSourceData` method, 235

`ShowPages` method, 223

`Sum` function, 225

variable, 213, 215

workbook, opening, 216

version difference overview, 241–244

`VideoDataWithRatings.xls` file, 202

`VideoStoreRawData.xls` file, 9, 225

View ⇄ Toolbars, 63

Visual Basic for Applications. *See* VBA

**W**

Web query, 39

workbook

- copying `PivotTable` to another, 194–195
- data source, as, 17–22
- opening
  - refreshing `PivotTable` upon, 69
  - VBA, using, 216
- overhead, 20
- password, saving with, 69
- report, copying to current, 238–239
- summary workbook, 20

**X**

XML (Extensible Markup Language) data source, 39



