

Microsoft Excel 2019

Data Analysis and Business Modeling

SIXTH EDITION

Wayne L. Winston



Practice and solution
files on the web

Microsoft Excel 2019 Data Analysis and Business Modeling

Sixth Edition

Wayne L. Winston

Microsoft Excel 2019 Data Analysis and Business Modeling

Table of Contents

Cover

Title Page

Copyright Page

Contents at a glance

Contents

Introduction

Chapter 1 Basic worksheet modeling

Answers to this chapters questions

Problems

Chapter 2 Range names

How can I create named ranges?

Answers to this chapters questions

Remarks

Problems

Chapter 3 Lookup functions

Syntax of the lookup functions

Answers to this chapters questions

Problems

Chapter 4 The INDEX function

Syntax of the INDEX function

Answers to this chapters questions

Table of Contents

Problems

Chapter 5 The MATCH function

Syntax of the MATCH function

Answers to this chapters questions

Problems

Chapter 6 Text functions and Flash Fill

Text function syntax

Answers to this chapters questions

Problems

Chapter 7 Dates and date functions

Answers to this chapters questions

Problems

Chapter 8 NPV and XNPV functions

Answers to this chapters questions

Problems

Chapter 9 IRR, XIRR, and MIRR functions

Answers to this chapters questions

Problems

Chapter 10 More Excel financial functions

Answers to this chapters questions

Problems

Chapter 11 Circular references

Answers to this chapters questions

Problems

Chapter 12 IF, IFERROR, IFS, CHOOSE, and SWITCH functions

Answers to this chapters questions

Table of Contents

Problems

Chapter 13 Time and time functions

Answers to this chapters questions

Problems

Chapter 14 The Paste Special command

Answers to this chapters questions

Problems

Chapter 15 Three-dimensional formulas and hyperlinks

Answers to this chapters questions

Chapter 16 The auditing tool and the Inquire add-in

Answers to this chapters questions

Problems

Chapter 17 Sensitivity analysis with data tables

Answers to this chapters questions

Problems

Chapter 18 The Goal Seek command

Answers to this chapters questions

Problems

Chapter 19 Using the Scenario Manager for sensitivity analysis

Answer to this chapters question

Problems

Chapter 20 The COUNTIF, COUNTIFS, COUNT, COUNTA, and COUNTBLANK functions

Answers to this chapters questions

Problems

Chapter 21 The SUMIF, AVERAGEIF, SUMIFS, AVERAGEIFS,

Table of Contents

MAXIFS, and MINIFS functions

Answers to this chapters questions

Problems

Chapter 22 The OFFSET function

Answers to this chapters questions

Problems

Chapter 23 The INDIRECT function

Answers to this chapters questions

Problems

Chapter 24 Conditional formatting

Answers to this chapters questions

Problems

Chapter 25 Sorting in Excel

Answers to this chapters questions

Problems

Chapter 26 Excel tables and table slicers

Answers to this chapters questions

Problems

Chapter 27 Spin buttons, scrollbars, option buttons, check boxes,
combo boxes, and group list boxes

Answers to this chapters questions

Problems

Chapter 28 The analytics revolution

Answers to this chapters questions

Chapter 29 An introduction to optimization with Excel Solver

Problems

Table of Contents

Chapter 30 Using Solver to determine the optimal product mix

Answers to this chapters questions

Problems

Chapter 31 Using Solver to schedule your workforce

Answers to this chapters question

Problems

Chapter 32 Using Solver to solve transportation or distribution problems

Answer to this chapters question

Problems

Chapter 33 Using Solver for capital budgeting

Answer to this chapters question

Problems

Chapter 34 Using Solver for financial planning

Answers to this chapters questions

Problems

Chapter 35 Using Solver to rate sports teams

Answer to this chapters question

Problems

Chapter 36 Warehouse location and the GRG Multistart and Evolutionary Solver engines

Understanding the GRG Multistart and Evolutionary Solver engines

Answer to this chapters questions

Problems

Chapter 37 Penalties and the Evolutionary Solver

Answers to this chapters questions

Table of Contents

Problems

Chapter 38 The traveling salesperson problem

Answers to this chapters questions

Problems

Chapter 39 Importing data from a text file or document

Answers to this chapters question

Problems

Chapter 40 Get & Transform

Answers to this chapters questions

Problems

Chapter 41 Geography and Stock data types

Answers to this chapters questions

Remarks

Problems

Chapter 42 Validating data

Answers to this chapters questions

Problems

Chapter 43 Summarizing data by using histograms and Pareto charts

Answers to this chapters questions

Problems

Chapter 44 Summarizing data by using descriptive statistics

Answers to this chapters questions

Problems

Chapter 45 Using pivot tables and slicers to describe data

Answers to this chapters questions

Table of Contents

Remarks about grouping

Problems

Chapter 46 The Data Model

Answers to this chapters questions

Problems

Chapter 47 Power Pivot

Answers to this chapters questions

Problems

Chapter 48 Filled and 3D Power Maps

Questions answered in this chapter

Problems

Chapter 49 Sparklines

Answers to this chapters questions

Problems

Chapter 50 Summarizing data with database statistical functions

Answers to this chapters questions

Problems

Chapter 51 Filtering data and removing duplicates

Answers to this chapters questions

Problems

Chapter 52 Consolidating data

Answer to this chapters question

Problems

Chapter 53 Creating subtotals

Answers to this chapters questions

Problems

Table of Contents

Chapter 54 Charting tricks

Answers to this chapters questions

Problems

Chapter 55 Estimating straight-line relationships

Answers to this chapters questions

Problems

Chapter 56 Modeling exponential growth

Answers to this chapters question

Problems

Chapter 57 The power curve

Answer to this chapters question

Problems

Chapter 58 Using correlations to summarize relationships

Answer to this chapters question

Problems

Chapter 59 Introduction to multiple regression

Answers to this chapters questions

Chapter 60 Incorporating qualitative factors into multiple regression

Answers to this chapters questions

Chapter 61 Modeling nonlinearities and interactions

Answers to this chapters questions

Problems for Chapters 59 through 61

Chapter 62 Analysis of variance: One-way ANOVA

Answers to this chapters questions

Problems

Table of Contents

Chapter 63 Randomized blocks and two-way ANOVA

Answers to this chapters questions

Problems

Chapter 64 Using moving averages to understand time series

Problem

Chapter 65 Winters method and the Forecast Sheet

Remarks

Excels Forecast Sheet Tool

Problems

Chapter 66 Ratio-to-moving-average forecast method

Answers to this chapters questions

Problem

Chapter 67 Forecasting in the presence of special events

Answers to this chapters questions

Problems

Chapter 68 An introduction to probability

Answers to this chapters questions

Problems

Chapter 69 An introduction to random variables

Answers to this chapters questions

Problems

Chapter 70 The binomial, hypergeometric, and negative binomial random variables

Answers to this chapters questions

Problems

Chapter 71 The Poisson and exponential random variable

Table of Contents

Answers to this chapters questions

Problems

Chapter 72 The normal random variable and Z-scores

Answers to this chapters questions

Problems

Chapter 73 Weibull and beta distributions: Modeling machine life and duration of a project

Answers to this chapters questions

Problems

Chapter 74 Making probability statements from forecasts

Answers to this chapters questions

Problems

Chapter 75 Using the lognormal random variable to model stock prices

Answers to this chapters questions

Remarks

Problems

Chapter 76 Importing historical stock data into Excel

Answers to this chapters questions

Problems

Chapter 77 Introduction to Monte Carlo simulation

Answers to this chapters questions

The impact of risk on your decision

Confidence interval for mean profit

Problems

Chapter 78 Calculating an optimal bid

Table of Contents

Answers to this chapters questions

Problems

Chapter 79 Simulating stock prices and asset-allocation modeling

Answers to this chapters questions

Problems

Chapter 80 Fun and games: Simulating gambling and sporting event probabilities

Answers to this chapters questions

Problems

Chapter 81 Using resampling to analyze data

Answer to this chapters question

Problems

Chapter 82 Pricing stock options

Answers to this chapters questions

Problems

Chapter 83 Determining customer value

Answers to this chapters questions

Problems

Chapter 84 The economic order quantity inventory model

Answers to this chapters questions

Problems

Chapter 85 Inventory modeling with uncertain demand

Answers to this chapters questions

The back-order case

The lost-sales case

What does the term 95 percent service level mean?

Table of Contents

Problems

Chapter 86 Queuing theory: The mathematics of waiting in line

Answers to this chapters questions

Problems

Chapter 87 Estimating a demand curve

Answers to this chapters questions

Problems

Chapter 88 Pricing products by using tie-ins

Answer to this chapters question

Problems

Chapter 89 Pricing products by using subjectively determined demand

Answer to this chapters questions

Problems

Chapter 90 Nonlinear pricing

Answers to this chapters questions

Problems

Chapter 91 Array formulas and functions

Answers to this chapters questions

Problems

Chapter 92 Recording macros

Answers to this chapters questions

Problems

Chapter 93 Advanced sensitivity analysis

Problems

Index