

Table of Contents

About the Authors	vii
About the Book	viii
Chapter 1: Questions, Practices, and Qualities of Critical Thinkers	1
Case 1	2
1.1 Questions and Practices of Critical Thinkers	3
1.2 Exercise	4
1.3 Exercise	7
1.4 Exercise	10
1.5 Exercise	13
1.6 Exercise	15
Case 2	17
1.7 Four Qualities of Critical Thinkers	18
1.8 Exercise	19
1.9 Exercise	22
1.10 Exercise	25
1.11 Exercise	28
Case 3	30
1.12 Review Exercise	31
1.13 Review Exercise	32
1.14 Review Exercise	33
1.15 Review Exercise	35
1.16 Review Exercise	37
1.17 Review Exercise	38
1.18 Review Exercise	39
1.19 Review Exercise	41
1.20 Review Exercise	42
Chapter 1 Quiz	45
Chapter 2: Facts, Claims of Fact, and Opinions	47
Case 4	48
2.1 Facts and Opinions	49
2.2 Exercise	51
Case 5	53
2.3 Claims of Fact	54
2.4 Exercise	55
2.5 Evidence	57
2.6 Exercise	58
2.7 Observational Evidence	60
2.8 Exercise	61
2.9 Conclusive Evidence	63
2.10 Exercise	65
2.11 Knowing or Sufficient Evidence	69
2.12 Exercise	71

Case 6.....	74
2.13 Review Exercise.....	75
2.14 Review Exercise.....	76
2.15 Review Exercise.....	78
2.16 Review Exercise.....	81
Case 7.....	84
2.17 Review Exercise.....	85
2.18 Review Exercise.....	86
2.19 Review Exercise.....	87
2.20 Review Exercise.....	88
2.21 Review Exercise.....	90
Chapter 2 Quiz.....	92
Chapter 3: Ambiguity, Descriptions, and Explanations.....	95
Case 8.....	96
3.1 Ambiguity and Vagueness.....	97
3.2 Exercise.....	98
3.3 Exercise.....	101
3.4 Exercise.....	104
3.5 Exercise.....	106
Case 9.....	107
3.6 Descriptions.....	108
3.7 Exercise.....	109
Case 10.....	110
3.8 Explanations.....	111
3.9 Exercise.....	112
Case 11.....	114
3.10 Arguments.....	115
3.11 Exercise.....	116
Case 12.....	118
3.12 Recognizing Arguments: Finding Premises and Conclusions.....	119
3.13 Exercise.....	121
Case 13.....	122
3.14 Review Exercise.....	123
3.15 Review Exercise.....	124
3.16 Review Exercise.....	125
3.17 Review Exercise.....	127
3.18 Review Exercise.....	128
Chapter 3 Quiz.....	130
Chapter 4: Valid and Invalid Arguments.....	133
Case 14.....	134
4.1 Valid and Invalid Arguments.....	135
4.2 Exercise.....	137
4.3 Argument Forms.....	139
4.4 Exercise.....	141
4.5 Exercise.....	145
4.6 Exercise.....	151
4.7 Exercise.....	157

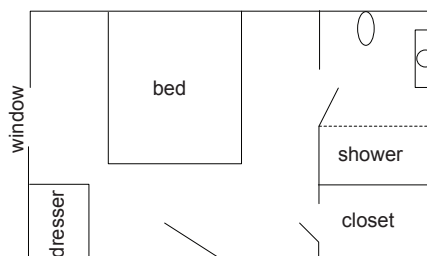
Case 15.....	165
4.8 Induction.....	166
4.9 Exercise.....	167
4.10 Exercise.....	170
4.11 Exercise.....	174
Case 16.....	177
4.12 Review Exercise.....	178
4.13 Review Exercise.....	181
4.14 Review Exercise.....	186
4.15 Review Exercise.....	191
4.16 Review Exercise.....	195
Chapter 4 Quiz.....	199
Chapter 5: Arguments Based on Claims.....	201
Case 17.....	202
5.1 Simple and Compound Claims.....	203
5.2 Exercise.....	207
5.3 Exercise.....	210
Case 18.....	212
5.4 Common Argument Forms.....	213
5.5 Exercise.....	218
5.6 Common Arguments.....	222
5.7 Exercise.....	229
5.8 Fallacies.....	233
5.9 Exercise.....	235
5.10 Exercise.....	237
Case 19.....	242
5.11 Enthymemes and Argument Chains.....	243
5.12 Exercise.....	244
5.13 Exercise.....	251
5.14 Exercise.....	259
Case 20.....	264
5.15 Logically Equivalent Claims.....	265
5.16 Exercise.....	270
Case 21.....	275
5.17 Review Exercise.....	276
5.18 Review Exercise.....	277
5.19 Review Exercise.....	282
5.20 Review Exercise.....	287
Chapter 5 Quiz.....	291
Compound Claim and Argument Reference Sheet.....	293
Chapter 6: Categorical Syllogisms.....	295
Case 22.....	296
6.1 Categorical Claims.....	297
6.2 Exercise.....	299
6.3 Exercise.....	302
6.4 Categorical Syllogisms.....	305
6.5 Exercise.....	307

6.6	Rules for Evaluating Categorical Syllogisms.....	312
6.7	Exercise	316
6.8	Exercise	322
6.9	Venn Diagrams for Categorical Claims	328
6.10	Exercise	330
6.11	Venn Diagrams for Categorical Syllogisms	332
6.12	Exercise	336
6.13	Exercise	346
	Case 23.....	357
6.14	Toward Ordinary Language Syllogisms: Enthymemes.....	358
6.15	Exercise	362
6.16	Exercise	372
6.17	Toward Ordinary Language Syllogisms: Immediate Inferences and Squares of Opposition	375
6.18	Exercise	377
6.19	Exercise	385
6.20	Toward Ordinary Language Syllogisms: Conversion, Obversion, and Contraposition	389
6.21	Exercise	392
6.22	Exercise	397
6.23	Exercise	402
6.24	Ordinary Language Syllogisms	404
6.25	Exercise	406
6.26	Exercise	409
6.27	Exercise	414
6.28	Exercise	424
	Case 24.....	426
6.29	Review Exercise.....	427
6.30	Review Exercise.....	429
6.31	Review Exercise.....	431
6.32	Review Exercise.....	433
6.33	Review Exercise.....	435
6.34	Review Exercise.....	437
6.35	Review Exercise.....	438
6.36	Review Exercise.....	440
6.37	Review Exercise.....	442
6.38	Review Exercise.....	447
	Chapter 6 Quiz	450
Chapter 7: Inductive Arguments		453
	Case 25.....	454
7.1	Arguments by Analogy	455
7.2	Exercise	456
7.3	Evaluating Arguments by Analogy.....	457
7.4	Exercise	460
7.5	Inductive Generalizations.....	463
7.6	Exercise	465
	Case 26.....	467
7.7	Arguments to the Best Explanation.....	468
7.8	Exercise	472

Case 27	476
7.9 Review Exercise.....	477
7.10 Review Exercise.....	478
7.11 Review Exercise.....	480
7.12 Review Exercise.....	481
7.13 Appendix: Surveys	485
Chapter 7 Quiz.....	487
Chapter 8: Informal Fallacies	489
Case 28.....	490
8.1 Fallacies of Weak Induction	491
8.2 Exercise	493
Case 29.....	495
8.3 Fallacies of Presumption.....	496
8.4 Exercise	499
8.5 Fallacies of Relevance, Part I	501
8.6 Exercise	503
8.7 Fallacies of Relevance, Part II	506
8.8 Exercise	508
8.9 Fallacies of Ambiguity	510
8.10 Exercise	512
8.11 Review Exercise.....	515
8.12 Review Exercise.....	517
8.13 Review Exercise.....	519
8.14 Review Exercise.....	521
8.15 Review Exercise.....	523
Chapter 8 Quiz.....	525
Index	528

CASE 14

City of Los Angeles Police Department



¹Emily Dorn was the victim of foul play. ²She had been attacked. ³Her valuables had been stolen from her room. ⁴But it appears that no one could have broken into her room.

⁵Emily Dorn had been a guest at the Clarke Mansion. ⁶Since the party the previous evening had lasted into the wee hours of the morning, no one was surprised by her absence at brunch. ⁷When she still had not appeared by late in the afternoon, her fiancé, John Clarke, became concerned. ⁸He found that the door to her room was locked and bolted from the inside. ⁹Repeated knocks on the door yielded no response. ¹⁰Giles, the butler, took a ladder and climbed to her third-floor window. ¹¹The window was locked. ¹²He saw that Ms. Dorn was tied to a chair, apparently unconscious. ¹³The room was a mess. ¹⁴Giles returned to the house and called the police.

¹⁵After Detective Wise arrived, the patrol officers forced open the door to the room. ¹⁶Ms. Dorn's breathing and heartbeat were slow but regular. ¹⁷Attempts to revive her were unsuccessful. ¹⁸She was rushed by ambulance to Cedars-Sinai Hospital.

¹⁹There had been a robbery. ²⁰The room had been ransacked. ²¹Her wallet and credit cards were missing. ²²The diamond and emerald necklace Ms. Dorn had worn at the party was nowhere in the room.

²³Dr. Andrea Schmidt reported her medical findings to Detective Wise. ²⁴"Ms. Dorn had been given a large dose of flurazepam. ²⁵She should be coming around within the next few hours."

²⁶"Either it was a robbery or she faked the theft," Detective Wise reasoned. ²⁷"Since she couldn't have bound herself to the chair and the syringe that administered the drug was not found in the room, she couldn't have faked the theft. ²⁸So, it had to be a robbery. ²⁹But if it was a robbery, someone had to enter the room. ³⁰But the room was locked and bolted from the inside. ³¹So, no one could get in. ³²So, it couldn't have been a robbery."

³³"One of my premises has to be false," concluded Detective Wise.

4.4 Exercise Circle the argument form that best represents each argument. Writing the form of the argument is often helpful, but it is not required.

1. **Example:**

If there is a secret passage into the room, then the dresser hides a staircase.

There is a secret passage into the room.

So, the dresser hides a secret staircase.

If p, then q.

$\frac{p.}{q.}$

a. **If p, then q.**

$\frac{p.}{q.}$

c. If p, then q.

$\frac{q.}{p.}$

b. If p, then q.

$\frac{\text{Not } q.}{\text{Not } p.}$

d. If p, then q.

$\frac{\text{Not } p.}{\text{Not } q.}$

2. If it was a murder, then someone entered the room.

No one entered the room.

So, it was not a murder

a. If p, then q.

$\frac{p.}{q.}$

c. If p, then q.

$\frac{q.}{p.}$

b. If p, then q.

$\frac{\text{Not } q.}{\text{Not } p.}$

d. If p, then q.

$\frac{\text{Not } p.}{\text{Not } q.}$

3. If the case provides a locked-room problem, then there is a secret passage into the room.

If there is a secret passage into the room, then not everything is as it appears to be.

So, if the case provides a locked-room problem, then not everything is as it appears to be.

a. If p, then q.

$\frac{\text{If not } q, \text{ then not } r.}{\text{If } p, \text{ then not } r.}$

c. If p, then q.

$\frac{\text{If } r, \text{ then } q.}{\text{If } p, \text{ then } q.}$

b. If p, then q.

$\frac{\text{If } q, \text{ then } r.}{\text{If } r, \text{ then } p.}$

d. If p, then q.

$\frac{\text{If } q, \text{ then not } r.}{\text{If } p, \text{ then not } r.}$

CASE 16

City of Los Angeles Police Department

¹It was the fourth letter demanding money for silence. ²Dani Drugas was running for city council. ³Her campaign called for a return to high moral standards in government. ⁴The twenty-year-old picture the blackmailer threatened to give the press showed her riding with the Silver Shadows motorcycle gang. ⁵The demands had risen from \$1,000 with the first letter to \$10,000 with this one. ⁶Dani had paid the first three times. ⁷Now she called the police.



⁸She met Detective Wise at Julio's Italian Restaurant on Sunset Boulevard. ⁹While eating a large plate of spaghetti, Dani described her problem. ¹⁰"I don't deny that I rode with a motorcycle gang as a kid. ¹¹It wasn't a hard-core gang. ¹²We made a lot of noise. ¹³We painted some graffiti. ¹⁴We weren't into murder and theft. ¹⁵Those with whom I've stayed in contact have gone straight. ¹⁶Big Steve is now an investment banker. ¹⁷Wee Willie runs a construction company. ¹⁸Little Lilly teaches kindergarten. ¹⁹But the picture would ruin my campaign. ²⁰If my supporters find my history isn't squeaky-clean, they'll jump like rats from a sinking ship."

²¹Detective Wise thought about the case. ²²"Who could have taken the picture?" she asked.

"²³We got around. ²⁴We could have been in the background in a newspaper photo. ²⁵Wild Wanda Greene was always shooting pictures. ²⁶She was a jealous sort. ²⁷I don't know what happened to her. ²⁸When the gang broke up, I believe she hooked up with the Red Riders gang."

"²⁹It couldn't have been from a newspaper photo," remarked Detective Wise. ³⁰"If it had been from a newspaper photo, your opponents would have found it. ³¹If they'd have found it, they'd have published it. ³²It hasn't been published. ³³They wouldn't have resorted to blackmail."



4.12 Review Exercise Circle the form that best represents each argument. Writing the form of the argument is often helpful, but it is not required.

1. **Example:**

If it had been a newspaper photo, your opponents would have found it. If your opponents would have found it, they'd have published it. So, if it had been a newspaper photo, your opponents would have published it.

*If p, then q.
If q, then r.

If p, then r.*

a. **If p, then q.
If q, then r.

If p, then r.**

b. If p, then q.
If r, then q.

If p, then r.

c. If p, then q.
Not q.

Not p.

d. If p, then q.
p.

q.

2. If it had been a newspaper photo, your opponents would have published it. They didn't publish it. So, it wasn't a newspaper photo.

a. If p, then q.
If q, then r.

If p, then r.

b. If p, then q.
If r, then q.

If p, then r.

c. If p, then q.
Not q.

Not p.

d. If p, then q.
p.

q.

3. Either the photo was in a newspaper or it was taken by a private party. The photo was not in a newspaper. So, it was taken by a private party.

a. Either p or q.
p.

q.

b. Either p or q.
Not p.

Not q.

c. Either p or q.
Not p.

q.

d. Either p or q.
p.

Not q.