The following pages contain the answers to almost all of the exercises in this book. Answers to a few exercises have been omitted, primarily because the format of the exercise or the nature of the material, did not lend itself to a conveniently short and tidy solution. On other exercises, please be aware that the answer given may be controversial or only one of several correct answers. In any case, it is always more important to know, not what answer is correct, but *why* a given answer is correct. Answers that differ from the ones given may be correct, if they can be well and appropriately defended.

Answers to Exercises

Unit I – Section 1

Pages 13 – 14:

1. ...Hood / took...
2. ...place, / was...
3. ...grandmothers / are not...
4. ...girls (who break into...) / deserve...
5. ...girls (unless they have been...) / are...
6. ...girls / are...
7. ...wolves / think...
8. ...breakfast / shouldn't...

Pages 15 - 16:
A. 1. [*objects*] larger than a bread box.
2. [*people who*] ran as fast as he (or *they*) could.
3. home runs scored in the second inning. {already a proper term}
4. [*considerations that are*] unimportant, given the present situation.
{other parameter words may also be correct}
5. places we visited while we were in Paris. {already a proper term}

B. 1. Few [baseball players] *are* [*people who* hit home runs].
2. Many [hockey players] *are* [*people who* are sufficiently proficient at tennis to beat many chess players].
3. All [sentences] *are* [*sentences that* can be forced into categorical form].
4. All [sentences that are not in categorical form] *are* [*sentences that* should be forced into categorical form].
5. Some [sentences that are extremely difficult to force into categorical form] are not [coherent *sentences*].
6. Most [American businessmen who've hit it rich playing the stock market] *are* [greedy *people*].
7. Many [American businessmen] are not [greedy *people*].
8. No [American businessmen] *are* [*people who* should be greedy].
9. All [human beings] *are* [*beings that* have certain rights, including among others the right not to be killed].
10. (a) Almost all [fetuses] *are* [*beings that* will eventually turn into human beings, provided that no one interferes with their development].
(b) Almost all [fetuses (provided that no one interferes with their development)] *are* [*beings that* will eventually turn into human beings].
{The second formation is better, but not critical. Few students spot it.}

Page 17: {Letters assigned to terms are *my* arbitrary choices! Yours need not match.}

A. 1. All [apples] are [fruit].　　　　A – apples　　F – fruit　　　　　　All A are F.
   2. No [apples] are [vegetables].　　A – apples　　V – vegetables　　　No A are V.
   3. Most [apples] are [red-colored fruit].
   　　　　　　　　　　　　A – apples　　R – red-colored fruit　　Most A are R.
   4. Some [apples] are not [red-colored fruit].
   　　　　　　　　　　　　A – apples　　R – red-colored fruit.　Some A are not R.
   5. Many [red-colored fruit] are not [apples].
   　　　　　　　　　　　R – red-colored fruit　　A – apples　　Many R are not A.
   6. No [red-colored fruit] are [green-colored fruit].
   　　　　　　　　　　　R – red-colored fruit　　G-green-colored fruit　No R are G.
   7. Some [red-colored vegetables] are not [things that people eat].
   　　　　　　R – red-colored vegetables　　E – things that people eat　　Some R are not E
   8. Few [people who cook] are [people who believe tomatoes to be fruit].
   　　　　　C – people who cook　　T – people who believe tomatoes to be fruit　　Few C are B
   9. Some [people who cook] are [botanists].
   　　　　　C – people who cook　　　　B – botanists　　　　Some C are B.
   10. Almost all [botanists] are [people who believe tomatoes to be fruit].
   　　　　　B – botanists　　T – people who believe tomatoes to be fruit　　Almost all B are T.
   11. Most [people who cook] are not [botanists].
   　　　　　C – people who cook　　　　B – botanists　　　　Many C are not B.
   12. Few [people who believe that tomatoes are vegetables] are [people who believe that tomatoes
   are fruit].　　V – people who believe that tomatoes are vegetables
   　　　　　　　F – people who believe that tomatoes are fruit　　　Few V are F

B.　　1. A　　　2. E　　　3. T　　　4. O　　　5. G　　　6. E
　　　7. O　　　8. B　　　9. I　　　10. P　　　11. D　　　12. B

Pages 18 - 19:
A.　　1. B　　　2. D　　　3. A　　　4. O　　　5. G
　　　6. I　　　7. K　　　8. E　　　9. P　　　10. T

B. 1. Some [politicians] are [unpatriotic citizens].
   　　P – politicians　　　　C – patriotic citizens　Some P are non-C.　　I
   2. Most [politicians] are not [unpatriotic citizens.
   　　P – politicians　　　　C – patriotic citizens　Most P are not non-C.　D
   3. No [non-politicians] are [dishonest people].
   　　P – politicians　　　　H – honest people　　No non-P are non-H.　E
   4. Many [honest people] are [non-politicians].
   　　H – honest people　　P – politicians　　　　Many H are non-P.　　K
   5. Almost all [dishonest people] are [people who are not patriotic].
   　　H – honest people　　P – people who are patriotic　Almost all H are non-P.　P

C. 1. No [chess players] are [impatient *people*].
   C – chess players   P – patient people   No C are non-P.   E
2. Most [baseball players] are not [patient *people*].
   B – baseball players   P – patient people   Most B are not P.   D
3. Some [hockey players] *are* [*people who* are not very good at tennis].
   H – hockey players   T – people who are very good at tennis   Some H are non-T.   I
4. Some [scientists] are [unfriendly people].
   S – scientists   F – friendly people   Some S are non-F.   I
5. Many [scientists] are [people who can't (even) balance their own checkbooks].
   S – scientists   B – people who can balance their own checkbooks
   Many S are non-B.   K   {The word 'even' can be dropped without loss of meaning.}
6. Most [non-scientists] are [people who don't understand the theory of relativity].
   S – scientists   U – people who understand the theory of relativity
   Most S are non-U.   T
7. Few [non-scientists] are [people who eat cold French fries for breakfast].
   S – scientists   C – people who eat cold French fries for breakfast
   Few non-S are C.   B
8. No [scientists] are [people who don't occasionally eat cold French fries for breakfast].
   S – scientists   C – people who occasionally eat cold French fries for breakfast
   No S are non-C.   E   {The word 'occasionally' probably should *not* be dropped.}
9. Some [sentences] are [sentences that cannot be forced into categorical form].
   S – sentences   C – sentences that can be forced into categorical form
   Some S are non-C.   I
10. Many [greedy American businessmen] are [people who have not hit it rich playing the stock market].
    G – greedy American businessmen   H – people who have hit it rich playing the stock market.
    Many G are non-H.   G
11. All [people who believe that tomatoes are vegetables] are [people who have never studied botany].
    V – people who believe that tomatoes are vegetables   B – people who have studied botany
    All V are non-B.   A
12. Most people who have never studied botany are people who don't (really) care whether tomatoes are vegetables or whether they are fruit.
    B – people who have studied botany
    C – people who care whether tomatoes are vegetables or whether they are fruit
    Most B are non-C.   T

Page 22:
1. All [you] are [persons who should vote to re-elect Senator Slugfest.]
2. No [you] are [persons who can expect those poor little children to understand calculus.]
3. All [you] are [persons who would rather be in Hawaii.]
4. All [you] are [persons who should attach the faceplate to the frame using ¼ inch machine screws, as shown in the diagram above].
5. All [thou] are [persons who should act only on that maxim whereby thou canst at the same time will it to be a universal law].

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Page 23:
1. All [times the going gets tough] are [times the tough get going].
2. All [times that are today] are [times that are the first day of the rest of your life].
3. Some [times] are [times you just have to make the best of a bad situation].
4. All [times your need me] are [times I'll be there].
5. All [places that are home] are [places where the heart is].
6. Many [times] are [times life just isn't fair].
7. No [times] are [times you should say never].
8. (a) All [times one is in Rome] are [times to do as the Romans do].
   (b) All [places that are Rome] are [places where one should do as the Romans do].
9. All [places where the grass is greener] are [places that are someone else's yard].
10. All [times it rains] are [times it pours].

Unit I – Section 2

Page 25:
A. 1. All A are non-B
2. Few non-C are non-D.
3. Most non-E are not non-F.
4. Many G are H.
5. Some non-I are not J.

6. No K are L.   {*Not* All K are not L.}
7. Almost all non-M are N.
8. No non-O are P.   {*Not* All non-O are not P.}
9. Most Q are not non-R.
10. Some S are not T.

B. 1. Most red-colored fruit are non-apples.
2. Some Americans are not people interested in politics.
3. No doctors are unconcerned citizens.
4. Almost all senior citizens are persons with heart trouble.
5. No patriotic Americans are non-communist sympathizers.

C. *All* correctly done obversions are valid.

Page 26 – 27:
A. 1. No B are A.
2. Almost all D are non-C.
3. All non-F are non-E.
4. Most H are not G.
5. Some non-J are I.

B. 1. Some red-colored fruit are not apples.
2. Many people uninterested in politics are Americans.
3. Most concerned citizens are doctors.
4. Few persons with heart trouble are underweight men.
5. No patriotic Americans are communist sympathizers.

C. In exercise A, 1 and 5 are valid. In exercise B, only 5 is valid.

Page 28:
A. 1. All non-B are non-A.
2. Few Dare C.
3. Most non-F are E.
4. Many non-H are non-G.
5. Some J are not non-I

B. 1. Most non-apples are not non-red-colored fruit.
2. Some people uninterested in politics are not non-Americans.
3. All unconcerned citizens are non-doctors.
4. Few non-senior citizens are persons with heart trouble.
5. Many unpatriotic Americans are non-communist sympathizers.

C. In exercise A, 1 and 5 are valid. In exercise B, only 3 is valid.

Pages 29 - 30:

Transformation:		Valid/Invalid:	True/False/Undetermined:
A.	1. conversion	invalid	undetermined
	2. contraposition	valid	false
	3. conversion	valid	true
	4. obversion	valid	false
	5. contraposition	valid	true
	6. conversion	invalid	undetermined
	7. obversion	valid	true
	8. conversion	valid	false
	9. contraposition	invalid	undetermined
	10. conversion	invalid	undetermined
B.	1. conversion	invalid	undetermined
	2. obversion	valid	false
	3. contraposition	invalid	undetermined
	4. obversion	valid	false
	5. conversion	valid	true

Pages 33:

A				B.	
1. undetermined		6. True		1. undetermined	
2. true		7. undetermined		2. false	
3. undetermined		8. undetermined		3. undetermined	
4. true		9. false		4. undetermined	
5. undetermined		10. true		5. true	

Unit I – Section 3

Pages 43 - 44:

A.			B.	
1. true	6. undetermined		1. false	
2. true	7. undetermined		2. false	
3. false	8. false		3. false	
4. false	9. true		4. true	
5. true	10. false		5. true	

Pages 45 - 46:

A.			B.	
1. false	6. true		1. undetermined	
2. undetermined	7. undetermined		2. false	
3. false	8. true		3. false	
4. undetermined	9. undetermined		4. undetermined	
5. false	10. true		5. true	

Pages 48 – 49:

A. 1. false   6. true   B. 1. true
   2. undetermined   7. false   2. false
   3. true   8. undetermined   3. undetermined
   4. false   9. undetermined   4. true
   5. undetermined   10. false   5. undetermined

Unit I – Section 4

Page 52:

A. 1.   All [creatures from the Deneb system] are [beings with enhanced empathic powers].
   2.   Almost all [creatures from Altair] are [creatures with trilateral symmetry].
   3.   All [creatures with trilateral symmetry from the vicinity of the Horse-head Nebula] are [three-footed algosprilliums].
   4.   Many [intergalactic diplomats] are [creatures from the Deneb system].
   5.   Some [intergalactic diplomats] are [creatures with trilateral symmetry].

B. 1.   Most [dragons] are [ferocious *creatures*].
   2.   Few [dragons] *are* [*creatures that* can be trusted].
   3.   Many [dragons] *are* [*creatures that* eat whatever they can get their claws into].
   4.   Some [dragons] are [unfriendly *creatures*].
   5.   Few [dragons] *are* [*creatures that* actually breathe fire].

Page 54:

A. 1.   Most [diplomats from the Deneb system] are [accomplished linguists familiar with a variety of languages spoken throughout the galaxy].
   2.   All [diplomats from the Deneb system] are [experts on intergalactic protocol].
   3.   Few [creatures with bad breath] are [successful intergalactic diplomats].
   4.   Many [experts on intergalactic protocol] are [accomplished linguists familiar with a variety of languages spoken throughout the galaxy].
   5.   Some [experts on intergalactic protocol] are [creatures with bad breath].

B. 1.   Few [dragons] are [satisfied *creatures*].
   2.   Most [dragons] *are* [*creatures that* are found near lakes rather than in caves].
           {Notice that `are found' is an action verb in passive voice. Hence `are' in the original sentence is not a categorical copula. We still have to add `are creatures that'.}
   3.   Many [knights] *are* [*knights who* go upon a quest at least once in their lives].
   4.   Few [dragons] *are* [*creatures that* eat princesses for breakfast as a regular part of their diet].
   5.   Some [knights who have faced the green ogre of Bonwick, quested after the fearsome beast of Kil ap Arath, and fought in mortal combat against the foes of Queen Guinevere] are [tenderhearted *knights*].

Pages 54 – 55:
A. 1. All [dogs] are {dogs that have their day].
  2. Few [harsh words] are [justified words].
  3. No [watched pots] are [pots that boil].
  4. All [things worth doing] are [things worth doing well].
  5. All [shoemakers] are [people who wear the worst shoes].
  6. All [good mosquitoes] are [dead mosquitoes].
  7. No [things] are [things that last forever].
  8. No [persons] are [persons who don't like Sara Lee].
  9. Most [rains in Spain] are [weather events that stay on the plain].
 10. Few [hurricanes] are [weather events that happen in Hertford, Hereford, and Hampshire].

B. {Only the final answer is given.}
  1. false   2. true   3. undetermined   4. true   5. true

Page 57:
A. 1. All [non-employees] are [people not entrusted with a key to the restroom].
  2. No [Jews] are [members in good standing at the Brook Hollow Country Club].
  3. All [people permitted to join the Brook Hollow Country Club] are [members of the Republican Party].
  4. All [non-white people] are [people not permitted to ride at the front of the bus].
  5. All [non-Muslim souls] are [souls permitted to enter Heaven].

B. 1. No [people who don't eat chocolate chip cookies for breakfast] are [people who get fat].
  2. All [coffee beans used in Maxwell House Coffee] are [hand-picked coffee beans].
  3. All [those who haven't received a vaccination] are [people who aren't safe from the pandemic].
  4. Fox News alone reports the real facts concerning what is going on in the world.
  5. All [people who watch Fox News] are [people who know what is going on in the world].

Pages 59 – 60:
A. 1. All [Xymmt] are [intergalactic diplomats from the Deneb system].
  2. All [three-footed algosprilliums] are [creatures with trilateral symmetry].
  3. Some [three-footed algosprilliums] are [members of the current diplomatic mission from the Deneb system].
  4. All [those three creatures posing as intergalactic diplomats from Alpha Centauri] are [intergalactic assassins].
  5. All [creatures with enhanced empathic powers, who also happen to be an accomplished linguists familiar with a variety of languages spoken throughout the galaxy] are [natural diplomats].

B. 1. Some [brave knights] *are* [*knights who* went on a quest to slay the fearful three-headed dragon of Quotha].

2. All [tests of a true knight] are *[tests* whether he can look at his own face in the Mirror of Truth].

3. All [courage in the face of adversity] are [necessary attributes for a true knight].

4. All [true knights] are [*knights* faithful to the vows of knighthood].

5. All [true knights] *are* [*knights who* would do almost anything to please Queen Guinevere].

Pages 60 – 61:

A. 1. Some [creatures] are [residents of Alpha Centauri].

2. All [planetary systems that maintain friendly diplomatic relations with the Earth] *are* [*planetary systems that* have a shared interest in peaceful interspace commerce].

3. All [creatures qualified to be entrusted with sensitive intergalactic negotiations] are [accomplished linguists].

4. All [the two diplomats from the Deneb system] are [accomplished linguists].

5. All [planetary systems that don't have a shared interest in peaceful interspace commerce] *are* [*planetary systems that* don't maintain friendly diplomatic relations with the Earth].

6. All [money] are [the root of all evil].

7. All [fools and their money] *are* [*things that* are soon parted].

8. All [the three rules of real estate] are [location, location, location].

9. All [those who live by the sword] *are* [*those who* die by the sword.

10. All [the best things in life] are [free *things*].

B. {Only the final answer is given.}

  1. true   2. true   3. false   4. undetermined   5. undetermined

Pages 62 – 63:

A. 1. Few [creatures from Alpha Centauri] are [beings with enhanced empathic powers].

2. Many [creatures from Alpha Centauri] are [visitors to the United Nations this year].

3. Many [alien beings] are [terrible and sadistic killers].

4. Many [alien beings] are [guests at the President's private residence].

5. Few [terrible and sadistic killers] are [creatures with enhanced empathic powers].

B. 1. Few [dragons] *are* [*creatures that* have been spotted in England in the past two or three centuries].

2. Many [knights] *are* [*knights that* have set forth to slay the terrible three-headed giant of Carolingia, never to return].

3. Many [evil monsters] are [monsters that haunt the dreaded Wilderness of Despair].

4. Few [knights] *are* [*knights that* have returned from the perilous quest for the ring of enchantment.

5. Many [students] *are* [*students who* become discouraged when they first study logic].

Page 65:
A. 1. Few [creatures with enhanced empathic powers] are [terrible and sadistic killers].
2. Some [alien beings] are not [creatures with trilateral symmetry].
3. Many [intergalactic assassins] are [sadistic killers].
4. No [creatures with trilateral symmetry] are [intergalactic assassins].
5. Intergalactic assassins are not usually welcome dinner guests.

B. 1. Few [people] *are* [*people who* feel that ogres are welcome dinner guests].
2. No [people] *are* [*people who* feel that dragons are welcome dinner guests].
3. Many [ogres] *are* [*ogres who* feel that people are welcome dinner guests].
4. Many [people] *are* [*people who* were eaten by ogres last year].
5. Many [people] *are* [*people who* are terrified when they encounter a dragon].

Pages 65 – 66:
A. 1. Few [undercover agents] are [persons of impeccable moral character].
2. Most [agencies that engage in intelligence gathering activities] are [agencies that employ undercover agents].
3. Few [agencies of the Federal Government] are [agencies that engage in no intelligence gathering activities].
4. Few [international assassins] are [people who work for intelligence gathering agencies].
5. Few [agencies of the Federal Government that engage in intelligence gathering activities] are [agencies that hire international assassins].
6. Few [existentialist philosophers] *are* [*people who* write novels].
7. Few [people who write novels] are [existentialist philosophers].
8. Many [existentialist philosophers who write novels] *are* [*people who* write depressing novels].
9. Almost all [people who write depressing novels] are [existentialist philosophers].
10. Some [existentialist philosophers who writes novels] *are* [depressing *people*].

B. {Only the final answer is given.}
1. undetermined   2. undetermined   3. false   4. undetermined   5. false

Page 67:
A. 1. Few [planetary systems] are [signatories to the Declaration of the Universal Rights of Sentient Beings].
2. Some [creatures qualified to be entrusted with sensitive intergalactic negotiations] are not [accomplished linguists].
3. All [earth creatures] are [beings without enhanced empathic powers].
4. All [planetary systems that are not signatories to the Declaration of the Universal Rights of Sentient Beings] are [systems that regularly employ the services of intergalactic assassins].
5. Some [beings with enhanced empathic powers] are not [creatures qualified to be entrusted with sensitive intergalactic negotiations].

B. 1. All [knights able to slay dragons] are [true knights].
2. Some [persons who quail before the wrath of Queen Guinevere] are not [cowards].
3. Many [knights] are [knights worthy to be Knights of the Round Table].
4. All [knights who can slay the terrible three-headed giant of Carolingia] are Sir Lancelot.
5. All [knights in the realm] are [knights who went on a quest for the ring of enchantment].

Pages 73 – 74:
{Only the final answer is given.}

1. false	2. false	3. undetermined	4. true	5. false
6. false	7. undetermined	8. undetermined	9. true	10. undetermined
11. false	12. true	13. undetermined	14. undetermined	15. true

Unit II – Section 1

Pages 76 - 77:

1. argument	6. Example	11. example
2. description	7. hypothetical statement	12. hypothetical statement
3. argument	8. image	13. argument
4. term	9. term	14. explanation
5. explanation	10. controversial*	15. image

*Some people will argue that this is just a description; others will say that it is an argument. Understood as an argument, the conclusion is "Computers...are devoid of creativity."

Page 79:
1. A strong military posture is vital to our national security, since military preparedness is essential to our ability to respond to outside threats.   premiss flag

    conclusion flag
2. The only people who believe in a strong military are rednecks with an I.Q. under 80. It follows that we should not listen to the arguments of anyone who believes in a strong military. conclusion

3. Even in an age of decreasing tensions between the superpowers, it is important that we remain prepared to defend democracy from those who would take it away from us. Consequently we must be careful not to cut back too drastically on military spending. conclusion flag   conclusion

4. The logic now in use serves rather to fix and give stability to the errors which have their foundation in commonly received notions, than to help the search after truth. So it does more harm than good.

5. The sort of appeal that Emersonian optimism, on the one hand, and Buddhistic pessimism, on the other hand, make to the individual and the sort of response which he makes to them in his life are in fact indistinguishable from, and in many respects identical with, the best Christian appeal and response. We must therefore from the experiential point of view, call these godless or quasi godless creeds `religions'. conclusion flag   conclusion

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Pages 80 - 81:
1. A few people who understand philosophical concepts are driven insane by the effort. (However,) many people are unable to understand philosophical concepts at all. (So) few people are driven insane by the effort.]- *conclusion*   *conclusion flag*
premiss connective   *conclusion*

2. [There is no reason to have special programs for the gifted and talented.] They already have the advantage of being smarter than everyone else, (and) there is no reason to give them an even bigger advantage.   *premiss connective*

premiss connective
3. It is wrong to inflict unnecessary suffering on human beings. (Yet) animals are just like human beings in every morally relevant respect. (Hence) it is wrong to inflict unnecessary suffering on animals.]- *conclusion*   *conclusion flag*

premiss connective
4. Animals lack the capacity for rational judgment. (Moreover,) God put animals on earth for man's use. (Therefore) there is nothing morally wrong with using animals in scientific experiments.]- *conclusion flag*
conclusion   *premiss connective*
5. The necessity of justice to the support of society is the sole foundation of that virtue; (and) (since) no moral excellence is more highly esteemed, (we may conclude that) this circumstance of usefulness has, in general, the strongest energy and (most entire command over our sentiments.]- *conclusion*   *conclusion flag*
premiss flag

{Some people prefer to treat 'and since' merely as a premiss flag. This makes some sense. Notice that the phrase 'and consequently' (below) is treated merely as a conclusion flag.)

Pages 82 - 83:   *conclusion*
1. ~~There is every reason to be optimistic.~~ [If there are other intelligent life-forms in the universe, then we should eventually be able to learn of their existence; (because) ~~after all,~~ we are bound to discover the presence of any beings in the universe] that have some degree of intelligence.   *premiss flag*

premiss flag
2. People who have not had the benefit of a college-level [course in modern astronomy are unlikely to be aware of the precession of the equinoxes. (But) ~~presumably,~~ people of the early Neolithic did not have the benefit of a college-level course in modern astronomy. (It follows that) the people who built Stonehenge could hardly be expected to have [known about the precession of the equinoxes.]- *conclusion*   *conclusion flag*

3. The New York Times gave the play a bad review, (So) [it is ~~clearly~~ going to be panned by all the critics.]- *conclusion*   *conclusion flag*
premiss flag   *conclusion flag*
4. ~~As far as I know,~~ anything [that hurts me is also likely to hurt you. (Hence) [I shouldn't put you in a choke hold [since] ~~I know~~ this would hurt me.   *conclusion*
premiss connective
5. ~~We know, as a matter of scientific fact,~~ [that every molecule in the human body is replaced roughly every three years. (But) an individual can only be identified with its physical substance. (It ~~naturally~~ follows that) every human being becomes a whole new individual roughly every three years.]   *conclusion flag*
conclusion

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premiss connective

6. ~~It is hardly a matter for controversy~~ that animals undergo the sensations of pleasure and pain; (and) ~~it is equally uncontroversial that~~ humans are morally obligated to act in a way that minimizes pain and maximizes pleasure. (So) ~~naturally~~, we humans will have to give up the idea that animals may be treated without/concern for their feelings.] – *conclusion*

   conclusion flag   *conclusion flag*

7. An animal is living organized body; (and consequently) the same animal, ~~as we have observed~~ is the same continued life communicated to different particles of matter, as they happen successively to be united to that organized living body.] – *conclusion*

   premiss connective

8. (~~This may, indeed, seem a point too obvious to be worth making; but~~ the question, "What do sentences express?" is closely analogous to the question, "What do sentences mean?" (and) ~~as I have tried to show elsewhere~~ the question "What do sentences mean?" has been a source of confusion to philosophers (because) they have mistakenly thought it to be factual.   *conclusion 1* ———   *premiss flag*

   conclusion 2 – [unstated]

Page 84:
1. ~~It is well known that~~ reading produces intelligent and well educated children. Shouldn't we, (therefore,) take steps to limit the amount of time that children spend watching television? = *[We should take steps to limit the amount of time children spend watching television]* – *conclusion*   *conclusion flag*

2. ~~Don't you have any sense?~~ That toxic dump site is dangerous, (so) stay away from it! = *[You [Everyone should   ———conclusion   should stay away from it]]*

3. Vote for Senator Williams, (for) that is the best way to insure good government. *conclusion*   ⌐ *premiss flag*

4. ~~It should be apparent that~~ spanking children bruises their little psyches. ~~Do you~~ *You don't* want to be accused of bruising a child's psyche ✗ ~~Well, then~~ (it follows that) you shouldn't spank your children.] *conclusion*   *conclusion flag*)

5. {Sorry. No help on this one.}

Pages 85:   ⌐ *shouldn't*   ⌐ *conclusion*
1. ~~Why should~~ (we change our teaching methods ✗ All of today's great leaders were educated using the traditional methods.

2. ~~Let's face it~~. Children spend more time playing than adults. Children have fewer inhibitions than adults. Children have fewer inhibitions than adults. [Children are just more creative than adults.] – *conclusion*

   [*You shouldn't*   ⌐ *conclusion*
3. ~~Don't~~ vote for Senator Williams. ~~Isn't it obvious that~~ he is an unconscionable liar ✗

   conclusion ⌐
4. ~~Despite all appearances to the contrary,~~ [the common garden slug is in fact quite intelligent.] Slugs spend most of their time in quiet meditation. In this respect their behavior is precisely similar to that of most philosophers.

5. This duck acts just like George. It has all of George's memories and personality traits. ~~Impossible as it sounds~~ [George has been placed into the body of a duck!] – *conclusion*

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Pages 89 – 90:

A. 1. ATP-3   4. TPB-1
    2. KED-2   5. BII-4
    3. OEK-1   6. GDG-3

B. 1. ABT-3   4. KDO-2
    2. GIA-1   5. TAT-4
    3. EEK-4   6. OPE-3

C. 1. Almost all M are P.
    <u>No S are M.</u>
    All S are P.

2. Many P are M.
    <u>No S are M.</u>
    Some S are not P.

3. Some M are P.
    <u>All M are S.</u>
    Some S are P.

4. Most P are M.
    <u>Most M are not S.</u>
    Many S are not P.

5. Almost all M are P.
    <u>Most M are S.</u>
    Many S are P.

6. All P are M.
    <u>Some S are not M.</u>
    Some S are not P.

7. No M are P.
    <u>Most S are M.</u>
    Most S are not P.

8. Many P are not M.
    <u>Almost all M are S.</u>
    Few S are P.

9. Many M are P.
    <u>No M are S.</u>
    Many S are not P.

10. Some M are P.
    <u>Few S are M.</u>
    Most S are not P.

11. All P are M.
    <u>All M are S.</u>
    All S are P.

12. Few P are M.
    <u>No S are M.</u>
    Almost all S are P.

Page 94:
1. Does not break Rule 1.
2. Does not break Rule 1.
3. Breaks Rule 1.
4. Breaks Rule 1.
5. Does not break Rule 1.
6. Does not break Rule 1.

Page 95:
1. Does not break Rule 2.
2. Breaks Rule 2.
3. Does not break Rule 2.
4. Breaks Rule 2.
5. Breaks Rule 2.
6. Does not break Rule 2.

Page 96:
1. Breaks Rule 3.
2. Does not break Rule 3.
3. Does not break Rule 3.
4. Breaks Rule 3.
5. Does not break Rule 3.
6. Breaks Rule 3.

Page 98:
1. Does not break Rule 4.
2. Breaks Rule 4.
3. Breaks Rule 4.
4. Breaks Rule 4.
5. Does not break Rule 4.
6. Breaks Rule 4.

Page 99:
1. Breaks Rule 2.
2. Valid.
3. Breaks Rule 1.
4. Breaks Rule 3 and Rule 4.
5. Breaks Rule 1.

6. Valid.
7. Valid.
8. Breaks Rule 3 and Rule 4.
9. Breaks Rule 2.
10. Breaks Rule 1, Rule 2, Rule 3, and Rule 4.

Pages 101 - 102:
A. 1. KAK-1   2. BGP-2   3. AEE-4   5. PBO-3   4. DIO-2   6. GPO-3

B. 1. Breaks Rule 3.   7. Breaks Rule 3 and Rule 4.
   2. Valid.   8. Valid.
   3. Breaks Rule 1 and Rule 4.   9. Breaks Rule 4.
   4. Breaks Rule 2 and Rule 4.   10. Breaks Rule 1.
   5. Breaks Rule 3.   11. Breaks Rule 2.
   6. Breaks Rule 1, Rule 2, and Rule 4.   12. Breaks Rule 1, Rule 3, and Rule 4.

Page 103:
   1. Breaks Rule 1.   4. Breaks Rule 3.
   2. Breaks Rule 4.   5. Breaks Rule 3 and Rule 4.
   3. Valid.

Page 104:

1.   All hand guns are dangerous weapons. On the other hand, few hand guns are weapons
      that are effective against criminals. Hence some dangerous weapons are not weapons that
      are effective against criminals.

      All H are D.   Valid   H - handguns
      Few H are E.   D - dangerous weapons
      Some D are not E.   E - weapons that are effective against criminals

2.   Many women are political activists, and many nuclear physicists are political activists. It
      follows that some women are not nuclear physicists.

      Many W are P.   Breaks Rule 1,   W - women
      Many N are P.   Rule 3 and Rule 4.   P - political activists
      Some W are not N.   N - nuclear physicists

3.   All dairy products are foods that are high in cholesterol. Therefore many foods that are
      bad for people with heart conditions are dairy products, since all foods that are high in
      cholesterol are foods that are bad for people with heart conditions.

      All D are H.   Breaks Rule 2.   D - dairy products
      All H are B.   H - foods that are high in cholesterol
      Many B are D.   B - foods that are bad for people with
                                                    heart conditions

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4. Few Denverites are happy people, because most Denverites are Broncos fans, and, of course, few Broncos fans are happy people.

Most D are B.   Breaks Rule 1,   D - Denverites
Few B are H.   and Rule 2.   B - Broncos fans
Few D are H.   H - happy people

5. It is perfectly clear that all alien beings are creatures that are capable of doing differential equations in their heads. And, as everyone knows, most creatures that are capable of doing differential equations in their heads are superior life forms. Thus, some superior life forms are not alien beings.

All A are C.   Breaks Rule 1,   A - alien beings
Most C are S.   and Rule 4.   C - creatures that are capable of doing
Some S are not A.   differential equations in their heads
                                     S - superior life forms

{On the following exercises, the correct answer may often be arrived at in more than one way. These answers tell only whether a problem is valid or invalid, not how to arrive at that answer.}

Pages 105 - 107:
A 1. Invalid   4. Invalid   7. Invalid   10. Invalid
  2. Valid   5. Valid   8. Invalid   11. Invalid
  3. Invalid   6. Invalid   9. Valid   12. Invalid

B. 1. Invalid   2. Invalid   3. Valid   4. Invalid   5. Invalid

C. 1. Invalid   2. Invalid   3. Valid   4. Invalid   5. Invalid

Pages 107 - 106:
  1. Valid   4. Valid   7. Valid   10. Valid   13. Invalid
  2. Valid   5. Invalid   8. Invalid   11. Invalid   14. Invalid
  3. Invalid   6. Invalid   9. Invalid   12. Valid   15. Invalid

Unit II – Section 4

Page 109:
A. 1. Almost all A are C.   4. Some 0 are N or Some N are O.
   2. Most F are not E.   5. Almost all R are P.
   3. No L are J or No J are L.   6. All T are U.

B. 1. All hot dogs served with Blanche's Home Made Mustard are hot dogs that taste great.
   2. Many Muslims are not terrorists. {Missing conclusion}
   3. Many working women are too frightened to stand up for their rights.
{Notice that stronger statements would make the argument valid, but would also, very likely, be false.}
   4. Some multimillionaires are people who were late in filing their income taxes.
   5. All activities that are morally detrimental to the youth of this nation should be prohibited by strict laws.
   6. All fights to preserve freedom are noble causes.
{It's tough to find a suitable parameter for this one.}
   7. Everyone with good taste will want to buy Invisible Brand panty hose.
   8. Most Sunday school teachers are prudes. {Missing conclusion}

Pages 113 - 114: {Other correct answers may be derived from the given answers.}
A. 1. Many I are not G.
   2. Some M are non-P.
   3. Some non-D are not B.
   4. Few S are W.
   5. All non-A are Y.
   6. All C are E.
   7. All non-M are G.
   8. Many F are H.

B. 1. Many books are boring.
   2. All fair minded people will vote to acquit my client.
   3. Many Christians can't talk without quoting the Bible every other sentence.
   4. No one who owns stock in a major oil corporation has a right to express his opinions on solar energy.
   5. No politician is completely honest.
{The weaker claim 'Few politicians are completely honest' would be more likely to be true; but validity requires the stronger claim. In my view, this is one of the tell-tale signs of fallacious reasoning.}
   6. No unemployed people are financially dependable.
   7. Few financial planners are acrobats. {Missing conclusion}
   8. Many building contractors save for retirement.
   9. No fruit sold in grocery stores these days is tasty. {Missing conclusion}
   10. No natural disasters for which we are prepared are situations that result from poor planning.
{It's tough to find a plausible parameter for this one. 'Situations' will work, so long as we consider 'natural disasters' to be a variety of 'situation'.}

Pages 115 - 117:   {Sorry. No help on these.)

Pages 118 - 120:
   Puzzle #1: Some Irish are wastrels.
   Puzzle #2: Many beautiful paintings take my breath away.
   Puzzle #3: Some friendly creatures are not entirely safe company in October.
   Puzzle #4: Some ferocious fighters are not eager to slay the terrible three-headed giant of Carolingia.
   Puzzle #5: Some creatures other than three-footed algosprilliums are entitled to diplomatic immunity when they visit this planet.
   Puzzle #6: Few zebras bother to wear silk pajamas.
   Puzzle #7: All toads read to gnomes.
   Puzzle #8: All my dreams come true.
   Puzzle #9: I always avoid a kangaroo.

Page 126: {Only the fallacy is given}
1. Ex Concesis
2. Special Pleading
3. Appeal to Fear
4. Appeal to Hope

5. Celebrity Endorsement
6. Naturalistic Fallacy
7. Ad Populum
8. Appeal to Novelty

Page 129. {Only the fallacy is given}
1. Straw Man
2. Phantom Distinction

3. Appeal to Guilt
4. Equivocation

Unit IV – Section 1

Pages 135 - 142:
A. 1. a. strengthen - increase diversity of sample
 b. weaken - decrease diversity of sample
 c. weaken - decrease objectivity of subjects
 d. weaken - decrease sample size
 e. strengthen - increase objectivity of subjects
 f. strengthen – increase decisiveness of observation

 2. a. weaken - increase decisiveness of expectation
 b. strengthen - increase diversity of sample
 c. weaken - decrease analogy
 d. strengthen - increase sample size
 e. strengthen – increase analogy
 f. strengthen – increase analogy

 3. a. strengthen - increase sample size
 b. strengthen – increase decisiveness of observation
 c. weaken - decrease comparability
 d. strengthen - increase comparability / weaken – decrease objectivity of experimenter
 e. strengthen – increase objectivity of experimenter
 f. strengthen - decrease decisiveness of expectation

B. 1. simple/general
 a. weaken – decrease objectivity of subjects
 b. strengthen – increase sample size
 c. weaken – decrease diversity of sample
 d. strengthen – increase diversity of sample
 e. weaken – decrease decisiveness of observation
 f. strengthen – decrease decisiveness of expectation

2. simple/oblique
    a. strengthen – increase diversity of sample
    b. strengthen – increase objectivity of experimenter
    c. strengthen – increase decisiveness of observation
    d. weaken – decrease diversity of sample
    e. weaken – increase decisiveness of expectation
    f. strengthen – increase diversity and sample size

3. simple/oblique
    a. weaken – decrease analogy
    b. strengthen – increase diversity of sample
    c. weaken – decrease decisiveness of observation
    d. weaken – increase decisiveness of expectation
    e. weaken – decrease objectivity of experimenter
    f. weaken – decrease sample size

4. bifurcated/general
    a. strengthen – increase decisiveness of observation
    b. strengthen – increase objectivity of subjects
    c. weaken – decrease comparability
    d. weaken – decrease sample size
    e. strengthen – increase diversity of sample
    f. weaken – decrease objectivity of subjects

5. simple/general
    a. strengthen – increase diversity of sample
    b. strengthen – increase decisiveness of observation
    c. weaken – decrease diversity of sample
    d. strengthen – decrease diversity of population
    e. strengthen – decrease decisiveness of conclusion
    f. weaken – decrease sample size

6 – 8. {*Sorry. No help on these*}

Unit II – Section 2

Pages 154 – 156:
{*Suggested answers will be discussed in class.*}