# Chapter One

## Exercise 1.1 A

1. Statement.

2. Not a statement. It’s an imperative.

3. Statement.

4. See Answers to Selected Exercises.

5. Statement.

6. Not a statement. It’s an imperative.

7. Statement.

8. See Answers to Selected Exercises.

9. Not a statement. It’s a question.

10. Not a statement. It’s an exclamation.

11. Statement.

12. See Answers to Selected Exercises.

13. Not a statement. It’s a rhetorical question.

14. Statements.

15. Not a statement. It’s an imperative.

## Exercise 1.1 B

Jack: Let’s go up the hill.

Not a statement; it is a command.

Jill: That’s a bad idea.

Statement.

Jack: Why?

Not a statement. It’s a question.

Jill: It’s a very steep hill.

Statement.

Jack: I don’t care about that.

Statement.

Jill: But I have a heart condition.

Statement.

Jack: I don’t care about that either.

Statement.

Jill: Well, I see that you are a heartless human being.

Statement.

Jack: To the contrary, I have a very healthy heart.

Statement.

Jill: But you don’t care at all about my heart.

Statement.

Jack: If you have a heart condition, then you should get a good cardiologist to care for it.

Statement.

Jill: You’re making stupid jokes about my heart condition.

Statement.

Are you some kind of jerk, or what?

Not a statement; it’s a question.

## Exercise 1.1 C

1. Three statements: Stefan walked to store. Stefan bought a newspaper. Stefan went to café to read it.

2. One statement: Mercury is composed of mostly hot gases.

3. No statements.

4. See Answers to Selected Exercises.

5. Two statements: The internet has revolutionized the way people communicate. Cell phones have revolutionized the way people communicate.

6. No statements.

7. No statements.

8. See Answers to Selected Exercises.

9. No statements: both are imperatives.

10. Two statements: Cherokees believed they had a sacred duty to avenge deaths. War parties formed following a death.

11. One statement.

12. See Answers to Selected Exercises.

13. Two statements: The government should not be in the business of limiting speech. An institution should have freedom to restrict the speech of anyone at any time who utilizes resources within its jurisdiction.

14. Three statements: There is good reason why it is important to be able to listen to another person. We don’t have to learn to interrupt which comes naturally. It is important to be able to listen to another person

15. No statement. It is a command.

## Exercise 1.1 D

1. Likely to be a premise.

2. Controversial statement. Unlikely to be a premise.

3. Likely to be a premise.

4. See Answers to Selected Exercises.

5. Controversial statement. Unlikely to be premise.

6. Controversial statement. Unlikely to be premise.

7. Controversial statement. Unlikely to be a premise.

8. See Answers to Selected Exercises.

9. Controversial statement. Unlikely to be a premise.

10. Controversial statement. Unlikely to be a premise.

11. Not a statement

12. See Answers to Selected Exercises.

13. Likely to be a premise.

14. Controversial statement. Unlikely to be a premise.

15. Likely to be a premise.

## Exercise 1.1 E

1. Conclusion.

2. Conclusion.

3. Conclusion.

4. See Answers to Selected Exercises.

5. Not a likely conclusion. It’s a request.

6. Not a likely conclusion. It’s not controversial.

7. Not a likely conclusion. It’s not controversial.

8. See Answers to Selected Exercises.

9. Conclusion.

10. Conclusion.

11. Conclusion.

12. See Answers to Selected Exercises.

13. Likely to be a premise, not a conclusion. It’s uncontroversial.

14. Conclusion.

15. Not likely to be conclusion. It’s not controversial.

## Exercise 1.2 A

**Note to Instructors:** there are unstated premises in some of the following, although the section on unstated premises comes subsequent to this exercise. We have added the unstated premises, although, of course, the students would not be expected to do this at this point in the chapter.

(1) It is a steep hill.

(2) I have a heart condition.

Therefore,

(3) It is a bad idea to go up the hill.

(1) You don’t care about my heart.

[2] People should care about other people’s hearts.

Therefore,

(3) You are a heartless human being.

(1) You have a heart condition.

[2] A good cardiologist can help you with your heard condition.

Therefore,

(3) You should get a good cardiologist to care for it.

## Exercise 1.2 B

**Note to Instructors:** there are unstated premises in some of the following, although the section on unstated premises comes subsequent to this exercise. We have added the unstated premises, although, of course, the students would not be expected to do this at this point in the chapter.

1. Not an argument. Two statements: I don’t like Facebook. I can’t stand Twitter either.

2. Argument.

(1) Every time you hang out with him, you feel miserable.

[2] You don’t want to feel miserable.

Therefore,

(3) You shouldn’t go out with him.

3. Argument.

(1) I have seen 1,000 swans.

(2) All of the swans I have seen are white.

Therefore,

(3) Most swans are white.

4. See Answers to Selected Exercises.

5. Argument.

(1) Carbon-dioxide emissions are higher.

(2) Atmospheric particulates are increased.

[3] If emissions and particulates increase, then global temperatures will increase.

Therefore,

(4) Global temperatures will rise over the coming century.

6. Not an argument.

7. Argument

(1) Mary Wollenstonecraft was a woman.

(2) Mary Wollenstonecraft was a famous philosopher.

Therefore,

(3) Some famous philosophers are women.

8. See Answers to Selected Exercises.

9. Not an argument.

10. Argument:

(1) Tai nam is my favorite kind of Vietnamese noodles.

[2] If it is my favorite kind of Vietnamese noodle, then you will like tai nam.

Therefore,

(3) You will like tai nam.

11. Not an argument.

12. See Answers to Selected Exercises.

13. Not an argument.

14. Not an argument. It’s a description.

15. Two arguments:

(1) The table is the same color but appears differently in reflected light.

(2) If I move, the different parts are reflected.

Therefore,

(3) The distribution of colors will look different with my movement.

(1) The distribution of colors will look different with my movement.

(2) No two people can see the table from exact same point of view.

(3) Any change in point of view means some change in the reflected light.

Therefore,

(4) No two people looking at the table at the same time will see the same distribution of colors.

## Exercise 1.2 C

Answered above.

## Exercise 1.3

**Note to Instructors:** there are unstated premises in some of the following, although the section on unstated premises comes subsequent to this exercise. We have added the unstated premises, although of course, the students would not be expected to do this at this point in the chapter.

1. Argument

(1) Every time you hang out with him, you feel miserable.

[2] You don’t want to feel miserable.

Therefore,

[3] You shouldn’t go out with him.

2. Argument

[1] If you don’t buy guns, people who make them will lose their jobs.

[2] People don’t others to become unemployed.

Therefore,

(3) There are economic benefits to gun sales.

(1) There are economic benefits to gun sales.

(2) People’s lives are saved by guns.

[3] Saving people’s lives is good.

Therefore,

[4] You shouldn’t support gun control.

3. Not an argument. It’s an explanation.

4. See Answers to Selected Exercises..

5. Not an argument. It’s an explanation of the fact that people do not save for retirement.

6. Argument

(1) Murata has more experience.

(2) Murata has better communication skills than Johnson.

[3] More experience and education make better employees.

Therefore,

(4) We should hire Murata.

7. Argument

(1) 87% of 1000 surveyed college students preferred instant messaging to email.

Therefore,

(2) The vast majority of college students prefer instant messaging to email.

8. See Answers to Selected Exercises.

9. Argument

(1) Young people on average are getting fatter.

(2) Adult diabetes is rising.

[3] Public school lunches are not currently selling healthy food.

Therefore,

(4) Public schools should stop selling unhealthy food.

10. Two arguments

(1) Most words are open to multiple interpretations.

Therefore,

(2) If laws are what their words mean, then the meaning of most laws would be unacceptably ambiguous.

(1) If laws are what their words mean, then the meaning of most laws would be unacceptably ambiguous.

Therefore,

(2). The idea that the law is what the words that constitute it mean is too simple.

11. Not an argument.

12. See Answers to Selected Exercises.

13. Argument

(1) The unemployment rate for recent four-year college graduates is 6.8%.

(2) The unemployment rate for recent high school graduates is nearly 24%.

(3) Nearly 200,000 jobs for workers with Bachelor’s degree were added during the recession.

(4) Two million jobs for college-educated workers have been added during the recovery.

(5) Nearly four out of five jobs destroyed by the recession where held by workers with a high school diploma or less.

Therefore,

(6) A college degree is the best defense against unemployment.

14. There are two arguments in this passage.

(1) Nearly 90% of field-collected and laboratory-reared earwig males hold their penises in the right-ready state.

Therefore,

(2) Earwig males have a strong preference for their right penises.

(1) Earwig males have a strong preference for their right penises.

(2) The two penises are morphologically indistinguishable and fully functional.

Therefore,

(1) Earwig males strong preference for their right penises is largely, if not entirely, behavioral.

15. Most of the passage is an explanation about why SAC still has investors in midst of ethical scandals (Explanans = investors are only looking for performance when deciding where to invest. Investors are not concerned about the ethics of the employees in the company).At the end of the passage there are two arguments:

(1) Investing money on behalf of clients requires trust.

[2] Relationships based on trust require concern with ethics.

Therefore,

(3) Investors should have an interest in ensuring they do not invest in a company with questionable ethical standards.

(1) Investors should have an interest in ensuring they do not invest in a company with questionable ethical standards.

Therefore,

[2] Investors should not continue investing in SAC hedge fund.

## Exercise 1.4

1. Unstated premise. Suicides are undesirable.

2. Unstated premise. People should do things that make them less likely to be victims of crime.

3. Unstated conclusion. A single-payer health care system would be bad.

4. See Answers to Selected Exercises.

5. Unstated conclusion. She did not take Bio 101.

6. Unstated premise. In order to graduate, students must complete their academic residency requirements.

7. All premises and conclusions are stated.

8. See Answers to Selected Exercises.

9. Unstated premise. If you do not wash your hands, you will make everyone sick.

10. Two unstated premises and an unstated conclusion.

Unstated premise. All investors want excess return.

Unstated premise. The risks can cause people to lose money.

Unstated conclusion. All investors must accept losing money

11. One unstated premise and unstated conclusion.

Unstated premise. Romeo and Juliet do not want to be killed.

Unstated conclusion. Romeo and Juliet should not elope.

12. See Answers to Selected Exercises.

13. Two unstated premises.

Unstated premise. Pluto cannot be smaller than other space objects and retain its planet status.

Unstated premise. The asteroid Ceres is of comparable size to Pluto and 2003 UB313.

14. All premises and conclusions are stated.

15. Unstated conclusion. High-street retailers should meet the demands for clothing styles from the mature women market.

## Exercise 1.5 A

1. See Answers to Selected Exercises.

2. Argument One

(1) The patient is having severe chest pain.

(2) There is a history of heart attacks in his family.

Therefore,

(3) The patient is having a heart attack and we must operate immediately.

Argument Two

(1) The patient has a receipt from Joe’s Greasy Fried Chicken Shack for five portions of Greasy chicken wings.

(2) The patient’s hands have a lot of grease on them.

Therefore,

(3) The patient is more likely having indigestion than a heart attack.

(1) The patient is more likely having indigestion than a heart attack.

Therefore,

(2) We should not immediately perform surgery.

## Exercise 1.5 B

1. Argument

(1) I-75 is always a mess.

(2) They are repaving part of I-75 today.

Therefore,

(3) We should take I-285 instead of I-75.

2. Not an argument. Description.

3. Argument.

(1) Your car is pulling to the right.

(2) The tires look ok.

Therefore,

(3) One of your tie rods is bent.

4. See Answers to Selected Exercises.

5. Not an argument. Question.

6. Not an argument. Assertion.

7. Argument.

(1) Brown sugar is white sugar with molasses added.

(2) The molasses adds only minuscule amounts of minerals.

Therefore,

(3) Nutritionally, brown sugar and white sugar not much different.

(1) Nutritionally, brown sugar and white sugar not much different.

Therefore,

(2) Brown sugar is not a healthier option than white sugar.

8. See Answers to Selected Exercises.

9. Argument.

(1) The Spaniards appeared for the first time in 1517, whereas Quetzalcoatl was supposed to have returned in a One-Reed year of the Aztec calendar in 1519.

Therefore,

(2) Montezuma may not have believed that Cortes was Quetzalcoatl.

10. Not an argument. Description.

11. Not an argument. Joke.

12. See Answers to Selected Exercises.

13. Not an argument. Description (of what happened after Apple dropped its contract with Google).

14. Argument.

(1) The fossils of amphibians have been found in Antarctica.

[2] Amphibians cannot live in extremely cold climates.

Therefore,

(3) The weather in Antarctica at that time must have been warmer than it is now.

15. Argument.

(1) Melanesians do not believe in physiological paternity.

(2) Melanesian men are as jealous as men in societies in which procreation is understood.

[3] Explanations are either genetic or cultural.

Therefore,

(4) Sexual jealousy has a genetic rather than purely cultural explanation.

## Exercise 1.5 C

1. Argument.

(1) Students do better when classes are smaller.

Therefore,

(2) We should decrease class sizes.

2. Explanation.

Explanans: He does not exercise, eats donuts for breakfast, and eats hamburgers every night.

Explanandum: He is getting fat.

3. Argument against an explanation.

(1) His parents were divorced before he was two.

[2] He did not go to school until after he was two.

Therefore,

(3) The divorce could not have caused the drop in grades.

(1) The divorce could not have caused the drop in grades.

Therefore,

(2) There is some other cause for the drop in grades.

4. See Answers to Selected Exercises.

5. Neither an argument nor an explanation.

6. Neither an argument nor an explanation.

7. Explanation.

Explanans: The inside wheel’s track has a smaller radius, making a tighter turn.

Explanandum: The front wheels are not pointing in same direction when you turn the car.

8. See Answers to Selected Exercises.

9. Explanation.

Explanans: People are concerned the economy’s expansion will erode due to mortgage industry troubles.

Explanandum: Stocks fell yesterday.

10.

(1) Peace and freedom result when one’s sexual desires relax.

[2] One desires to have peace and freedom.

Therefore,

(3) It is good to no longer desire to have sex.

11. Explanation

Explanans: Humans could build shelters, use fire and make clothes that would counter any advantages of having fur like keeping warm

Explanandum: Humans do not have fur.

12. See Answers to Selected Exercises.

13. Explanation

Explanans: The U.S. would never invest in rehabilitating the poor as long as things like Vietnam continued to drain off energy and resources.

Explanandum: The war was an enemy of the poor.

14. Argument.

(1) We do not have to learn to interrupt which comes naturally.

(2) Interrupting is considered impolite.

Therefore,

(3) We have to learn not to interrupt.

(1) We have to learn not to interrupt.

[2] We act either naturally or by learning.

Therefore,

(3) It is important that we learn to listen.

15. No argument and no explanation. Just an announcement.

## Exercise 1.6 A and 1.6 B

Answered above.

## Exercise 1.6 C

1. Argument.

(1) You were playing with your dinosaur in the kitchen less than an hour ago.

(2) You have not been out of the house in the last hour.

Therefore,

(3) Your dinosaur is in the house.

2. Not an argument.

3. Argument.

(1) If he goes to work, he’ll get sick.

(2) He won’t go to work.

Therefore,

(3) He will not get sick.

This is an imperfect standardization because it contains pronouns but the passage does not tell us who “he” is.

4. See Answers to Selected Exercises.

5. Argument.

(1) Napoleon either lost at Waterloo or at Austerlitz.

(2) Napoleon did not lose at Austerlitz.

Therefore,

(3) Napoleon lost at Waterloo.

6. Argument.

(1) There is some red dirt on Watson’s shoe.

(2) There is red dirt on the ground in front of the Seymour Street Post Office that lies in such a way that it is difficult to avoid treading in it in entering.

Therefore,

(3) Watson has been to the Seymour Street Post Office.

7. Argument.

(1) God has many earthly children but he does not tenderly care for them and he inflicts wanton cruelty on them.

(2) People condemn those who have children and do not tenderly care for them and treat them cruelly.

(3) People do not condemn God’s failure to tenderly care for his earthly children and God’s infliction of wanton cruelty on them.

Therefore,

(4) People do not correctly use their reasoning abilities when they think about religious matters.

8. See Answers to Selected Exercises.

9. This is a series of descriptions of claims made by Peter Singer. It is not an argument. However, someone might be confused into thinking that the passage is making an argument because the authors are describing an argument made by Singer. Here’s is a standardization of Singer’s argument:

(1) The reflective, communicative, emotional, and social abilities of severely mentally impaired humans are not any greater than that of a pig or a primate.

Therefore,

(2) There are no morally relevant differences between some non-human animals and some severely mentally impaired human beings.

(1) There are no morally relevant differences between some non-human animals and some severely mentally impaired human beings.

Therefore,

(2) We should treat all these beings in similar ways.

10. Not an argument. There is a set of descriptions.

11. Argument.

(1) 1964 is an election year.

Therefore,

(2) 1964 threatens to be the most explosive year America has ever witnessed.

12. See Answers to Selected Exercises.

13. Argument.

(1) After 45 days, the presence of sesame oil in the diets was observed to lower blood pressure.

(2) After 45 days, the withdrawal of sesame oil from the diets of the same patients brought back their initial blood pressure (before the addition of the sesame oil).

Therefore,

(3) Sesame oil in the diet lowers blood pressure levels.

14. Explanation.

Explanans: Descartes has waited until such time as he has experience, background knowledge, leisure, age and maturity sufficient to allow him to be able to successfully carry out such an enterprise.

Explanandum: Why Descartes will begin his overthrow of all his opinions today.

15. Mr. Logan’s argument:

(1) None of the prior convictions were felonies that led to having his rights revoked

(2) Anyone whose rights are not revoked should be treated equally with those who have had their rights restored

(3) Those convictions on which rights were restored are exempted from the three prior convictions law

Therefore,

(4) Mr. Logan’s case should be exempted.

(1) Mr. Logan’s case should be exempted.

Therefore,

(2) His sentence should be 10 years, not 15 years

The Court’s argument

(1) If something is never lost, it cannot be restored.

(2) Mr. Logan never lost his rights.

Therefore,

(3) His rights were not restored.

(1) His rights were not restored.

Therefore,

(2) His rights do not fall under the exemption.

(1) His rights do not fall under the exemption.

Therefore,

(2) Mr. Logan’s sentence should be 15 years, not 10.

## Exercise 1.7 A

See the attached PowerPoint file.

## Exercise 1.7 B

See the attached PowerPoint file.

# Chapter Two

NOTE: beginning with Chapter Two and throughout the rest of the chapters, students will be asked to evaluate arguments by determining whether they pass the true premises test and the proper form test. We note here that many arguments will pass one or both tests by degrees. A minimum threshold is required, but there are many arguments that do a better job than others in exceeding that threshold. In particular, inductive arguments will pass the proper form test by degrees. Depending on the type of argument, we will give students specific guides for decision-making. For example, a statistical argument will need to have a representative sample before it will be said to pass the proper form test; a causal argument can pass the proper form test as long as it is able to be put into its standard form; however, an argument that explicitly took into account third party causes will pass the proper form test to a higher degree. Similarly, we will use a rough-and-ready distinction for how to decide whether arguments pass the true premises test in exercises that are not actual cases taken from real sources: (a) silly cases invented just for the exercises, (b) fictional cases in literature, or (c) plausible invented cases. Students will be told that arguments with silly cases should be said to fail the true premises test. Arguments from fictional cases pass the true premises test for the relevant audience. (For example, English professors discussing a scene in a Jane Austen novel.). Arguments that are invented but plausible would pass the true premises test if they were real arguments. For example, we have invented statistical or causal arguments said to take place at Very Cool University. VCU is invented but if students may encounter similar premises in actual cases in their lives, then they would evaluate the argument as passing the true premises test.

## Exercise 2.1 A

1. Passes both tests.

2. Premise (1) is false, so argument does not pass true premises test. If both premises were true, the conclusion would follow, so the argument does pass the proper form test.

3. Fails both tests. Premises are false and irrelevant to conclusion.

4. See Answers to Selected Exercises.

5. Argument passes true premises test because both premises are true. They are just barely relevant to the conclusion, in that they give evidence that some things can be recycled. But it is not enough evidence to pass the proper form test very well, since the things in the conclusion are not the same sort of materials as the things in the conclusion.

6. Fails the true premises test because premise (2) is false. The argument might pass the proper form test if one assumes that there are two and only two genders (men and women). If one does not make that assumption, then the first premise is a false dichotomy. (For more information about false dichotomies, see Chapter Five.)

7. Fails both tests. There is no reason to believe that everyone likes any given food. The argument fails the proper form test because, if the premises were true, then everyone would already be buying pizza regularly, so no increase could occur. The premises, if true, would actually provide evidence against the conclusion.

8. See Answers to Selected Exercises.

9. The argument passes the true premises test, but the argument does not do well on the proper form test.

10. The argument fails the true premises test because both premises are false. IF they were true, they would prove the conclusion, so this argument passes the proper form test.

11. Fails both tests. The first premise is false and the second premise is not knowable. The reference in the two premises are different, so it is not clear that if you would be eaten, anyone else and therefore any given “somebody” would be eaten, so the premises even if true, could not prove the conclusion. The argument fails the proper form test.

12. See Answers to Selected Exercises.

13. We don’t know who the speaker is and the premise isn’t plausible. It is doubtful that most people have seen the feet of 4,000 ducks. So the argument fails the true premises test. However, if the speaker was a scientist who studied ducks, the argument would pass the true premises test. If the premise is true, it would be evidence for the conclusion, so it also passes the proper form test. Notice that webbed feet is not a matter of simple choice for ducks, like the color of a house (in #12 above). So if 4,000 ducks have webbed feet, it is very likely they all do (barring injury or deformity).

14. The argument passes the true premises test as both are uncontroversial empirical statements. But the argument fails the proper form test because both premises are irrelevant to the conclusion.

15. Only “you” will know if this argument passes the true premises test, since only you know whether the premises are true or not. The argument passes the proper form test because it is a valid deductive argument (it is called denying the consequent and will be introduced in Chapter Five).

## Exercise 2.1 B

Student answers will vary. The following are examples.

|  |  |  |
| --- | --- | --- |
|  | Example 1 | Example 2 |
| Fails true premise test | (1) All Italians talk with their hands.  (2) Maria is Italian.  Therefore,  (3) Maria talks with her hands. | (1) If you step on a crack, you’ll break your mother’s back.  (2) You stepped on a crack!  Therefore,  (3) Your mom’s back will break. |
| Fails proper form test | (1) Maria is Italian.  (2) Maria talks with her hands.  Therefore,  (3) All Italians talk with their hands. | (1) If you step on a crack, you might trip.  (2) You tripped.  Therefore,  (3) You stepped on a crack. |
| Fails both | (1) All Italians talk with their hands.  (2) Maria talks with her hands.  Therefore,  (3) Maria is Italian. | (1) If you step on a crack, you’ll break your mother’s back.  (2) Your mom had to go to the chiropractor today for a broken back.  Therefore,  (3) You busted your mom’s back! |
| Fails neither | (1)Maria is Italian.  (2) Maria talks with her hands.  Therefore,  (3) Maria is a gesticulating Italian. | (1) If my mom hurts her back, she’ll go to the chiropractor.  (2) My mom lifted a big box and threw out her back.  Therefore,  (3) She will go to see the chiropractor. |

Student answers will vary. The following are examples.

|  |  |  |
| --- | --- | --- |
|  | Likely to be known by… | Unlikely to be known by… |
| 1 | German Historical Society | Ms. Smith’s Pre-school class |
| 2 | Chemistry 101 Class | Amungme tribe of New Guinea |
| 3 | Griffith University Journal of Sociology editorial board | Teenagers |
| 4 | ETS senior management team | Senior citizens who never had kids |
| 5 | Residents of Green Bay, Wisconsin | British school children (for whom football means soccer) |
| 6 | History of Modern Philosophy PhD candidate pool | Middle-schoolers |
| 7 | Mrs. Smith’s 5th grade class in Our Town, USA | Toddlers |
| 8 | Readers of Critical Thinking in College textbook | Flat Earth Society |
| 9 | Hyat’s immediate family | NASCAR Members Club |
| 10 | College physics majors | Little league baseball team |
| 11 | IT History Society | Purple Hat Society |
| 12 | Real Estate Developers | Cub Scout Troop 321 |
| 13 | High school English Teachers Assn. | Tiny tots swim team |
| 14 | U.S. Census Bureau Employees | Icelandic Trappers |
| 15 | Audiology researchers | Sponge Bob Square Pants Fan Club |

## Exercise 2.3 A, 2.3 B, 2.3 C

Student answers will vary.

## Exercise 2.4

1. Form B.

2. Form D.

3. Form B.

4. See Answers to Selected Exercises.

5. Form C.

6. Form A.

7. Other form.

8. See Answers to Selected Exercises.

9. Other form.

10 Form B.

11. Other form.

12. See Answers to Selected Exercises.

13. Form D.

14. Form A.

15. Other form.

## Exercise 2.5 A

1. Deductive and valid.

(1) If that is a cow, then I am a goat.

(2) It is a cow.

Therefore,

(3) I am a goat.

2. Inductive. One clue that the author does not intend the argument to be deductive is the wording “I bet,” which usually indicates there is some chance involved.

(1) I called Joi and she said she was at the library.

Therefore,

(2) She is probably at the library.

3. Main and subarguments are both deductive and valid. The specific argument forms will be introduced in Chapter Five.

(1) The syllabus says that you need to cite three sources.

[2] If you only cite one source, you have not cited three sources.

(3) You only cite one source.

Therefore,

[4] You have not cited three sources.

[1] You have not cited three sources.

[2] If you have not cited three sources, then you have not met the requirement.

Therefore,

[3] You have not met the requirement.

[1] You have not met the requirement.

[2] If you have not met the requirement, you will not get the grade you want.

Therefore,

(3) You won’t get the grade you want.

4. See Answers to Selected Exercises.

5. Not an argument. Description.

6. Deductive and valid. Specific argument form introduced in Chapter Five.

(1) Bret is either in class or in the rec center.

(2) Bret is not in class.

Therefore,

(3) Bret is in the rec center.

7. Not an argument. Instructions.

8. See Answers to Selected Exercises.

9. Deductive and sound.

(1) All human beings are mortal.

(2) Socrates was a human being.

Therefore,

(3) Socrates was mortal.

10. Deductive and valid, but not sound. The first premise is false. Some cars do not have transmissions (they may have been stolen or taken out for repair)

(1) All cars have a transmission.

(2) Your car is a car.

Therefore,

(3)Your car has a transmission.

11. Inductive, strong and cogent, as long as you have in fact seen 500 cars. Because this argument is inductive, it does not claim to guarantee the truth of the conclusion. Therefore, not as much evidence is required from the premises as it would be in a deductive claim (like #10 above). When making a deductive claim, you must be sure that the premises will have enough support to prove the conclusion every single time without exception. For inductive arguments, you are only claiming that the premises are likely to prove the conclusion. Therefore, the fact that there are probably some exceptions is not enough to completely weaken the argument.

(1) I have seen 500 cars.

(2) All 500 cars had transmissions.

Therefore,

(3)Your car probably has a transmission.

12. See Answers to Selected Exercises.

13. Deductive and valid. Two subarguments.

Subargument 1.

[1] Wisdom includes being correct in assessing what one knows.

(2) This man thinks he knows something he does not.

Therefore,

(3) This man is not wise.

Subargument 2.

(1) I Socrates know that I do not know anything.

Therefore,

(2) I am not incorrect in what I know.

Main Argument.

[1] Not being incorrect about lack of wisdom is wiser than not being wise at all.

Therefore,

(2) I Socrates am “a trifle” wiser than this man is.

14. Deductive and valid.

(1) The earth is either flat or spherical.

(2) If the earth is flat, it does not project a circular shadow on the moon during a lunar eclipse.

(3) If the earth is round, it projects a circular shadow on the moon during a lunar eclipse.

(4) The earth projects a circular shadow on the moon during a lunar eclipse.

Therefore,

(5) The earth is spherical.

15. Deductive and valid main argument plus two subarguments.

Subargument. Deductive

(1) The heart pumps 1/6 of an ounce of blood every time it pumps.

(2) The heart beats 1,000 times every half hour.

Therefore,

(3) The heart pumps 540 pounds of blood in a day.

Subargument. Inductive.

(1) If the blood is produced by the liver, the liver would have to produce 540 pounds a day.

(2) The liver does not produce 540 pounds of blood in a day.

Therefore,

(3) The blood is not produced by the liver.

Main Argument. Deductive.

(1) The blood is either produced by the liver or it circulates.

(2) The blood is not produced by the liver (conclusion to subargument above)

Therefore,

(3) The blood circulates.

## Exercise 2.5 B

1.

(a)

(1) If the earth is made of mozzarella, then the moon is made of green cheese.

(2) The earth is made of mozzarella.

Therefore,

(3) The moon is made of green cheese.

(b)

(1) I have visited 2,000 celestial bodies and they were all made of green cheese.

Therefore,

(2) The moon is made of green cheese.

2.

(a)

(1) Martha Stewart is either a good cook or she is a Canadian.

(2) Martha Stewart is not a Canadian.

Therefore,

(3) Martha Stewart is a good cook.

(b)

(1) I ate dinner at Martha Stewart’s house every night for the past two weeks and every meal was delicious.

Therefore,

(2) Martha Stewart is a good cook.

3.

(a)

(1) All jungles are places where it rains often.

(2) The Amazon jungle is a jungle.

Therefore,

(3) It often rains in the Amazon jungle.

(b)

(1) It has rained every day in the last month in the Amazon jungle.

Therefore,

(2) It often rains in the Amazon jungle.

4. See Answers to Selected Exercises.

5.

(a)

(1) If you are tired of waiting around for the thing to load, you should buy a new computer.

(2) You are tired of waiting around for the thing to load.

Therefore,

(3) You should buy a new computer.

(b)

(1) Your current computer is a wreck and you have lots of money.

Therefore,

(2) You should buy a new computer.

6.

(a)

(1) If my computer is neither white nor black but in between, then my computer is gray.

(2) My computer is neither white nor black but in between.

Therefore,

(3) My computer is gray.

(b)

(1) I checked out almost all of the computers in the other dorm rooms on my floor and they are gray.

Therefore,

(2) My computer is gray.

7.

(a)

(1) If my watch says 5:40 pm and it is two minutes fast, then it must really be 5:42 pm.

(2) My watch does say 5:40 pm and it is two minutes fast.

Therefore,

(3) It is 5:42 pm.

(b)

(1) The clock on the wall says that it is 5:42 pm.

Therefore,

(2) It is 5:42 pm

8. See Answers to Selected Exercises.

9.

(a)

(1) Either the Atlanta Braves is a good baseball team or the Washington Nationals is a good baseball team.

(2) The Washington Nationals is not a good baseball team.

Therefore,

(3) The Atlanta Braves is a good baseball team.

(b)

(1) The Atlanta Braves won the last ten games they played.

Therefore,

(2) The Atlanta Braves are a good baseball team.

10.

(a)

(1) I either like Coldplay or I like Polka music.

(2) I don’t like Polka music.

Therefore,

(3) I like Coldplay.

(b)

(1) I like rock bands.

(2) I like alternative bands.

(3) I like bands from England.

Therefore,

(4) I like Coldplay.

## Exercise 2.5 C

(a) Deductive argument.

(b) Yes, it is relevant because the word ''All'' includes every single human without exception so Socrates is also included in the group.

(c) The subargument is inductive.

(1) Everyone known to be a human being in the past was mortal.

(2) No one who was human was known to be immortal.

Therefore,

(3) All humans are mortal

## Exercise 2.5 D

Using G for group and F for feature, let

G1 = Residents of the 4th Congressional District of our state

G2 = Residents who do not earn more than the minimum wage.

F1 = Will not be affected by the upcoming tax hike.

(1) All G1 have F1.

(2) All G2 have F1.

Therefore,

(3) All G1 are G2.

You can see that this argument about the residents does not pass the proper form test by comparing it to the following argument:

(1) All college students attend classes and read books.

(2) All graduate students attend classes and read books.

Therefore,

(3) All college students are graduate students.

**EXERCISE 2.5 E**

Answered above in Exercise 2.5A

## Exercise 2.6 A

1. Relevant, independent premise.

2. Irrelevant, independent premise.

3. Irrelevant, independent premise.

4. See Answers to Selected Exercises.

5. Irrelevant, independent premise.

6. Relevant, independent premises.

7. Irrelevant independent premise.

8. See Answers to Selected Exercises.

9. Relevant, independent premise.

10. Relevant, independent premise.

11. Relevant, independent premise.

12. See Answers to Selected Exercises.

13. Relevant, independent premises.

14. Relevant, independent premise.

15. Relevant, independent premise.

## Exercise 2.6 B

(1) Relevant since being in need of money might motivate one to go a place where there is a lot of money like a bank.

(2) Not relevant since the crime is not similar.

(3) Not relevant since phrenology is a disproven “science.”

(4) Only relevant if the prior convictions were similar.

(5) Relevant since we are often influenced by those around us.

(6) Relevant but not much since there are many blue Fords.

(7) Relevant since there are probably not that many bank robbers that use a .22 pistol.

## Exercise 2.7 A

1. Argument with relevant, dependent premises.

(1) Socrates was a human being.

(2) All human beings are mortal.

Therefore,

(3) Socrates was mortal.

2. Argument with relevant, dependent premises.

(1) Transfatty acids lead to heart disease.

(2) Children shouldn’t be given foods that lead to heart disease.

Therefore,

(3) Children should not be given foods with transfatty acids.

3. Argument with relevant, dependent premises.

(1) Rhianna is either a man or a woman.

(2) Rhianna is a man.

Therefore,

(3) Rhianna isn’t a woman.

4. See Answers to Selected Exercises.

5. Argument with relevant, dependent premises.

(1) All cows are pigs.

(2) All pigs are ducks.

Therefore,

(3) All cows are ducks.

6. Argument with relevant, dependent premises.

(1) If Reza had fallen, he would have a bump on his head.

(2) Reza didn’t have a bump on his head.

Therefore,

(3) Reza didn’t fall.

7. Main and Subargument with relevant, independent premises.

Subargument.

(1) The coffee cup was still warm.

(2) The newspaper was open on the dining room table.

(3) The microwave was heating up a frozen dinner.

[4] Each of these three scenes indicates someone was recently present in the room.

Therefore,

[5] If someone was recently in the room, he or she couldn’t have gone far.

Main argument.

(1) If someone was recently in the room, he or she couldn’t have gone far.

Therefore,

(2) The killer couldn’t have gone far

8. See Answers to Selected Exercises.

9. Not an argument.

10. Argument with relevant, dependent premises.

(1) A survey indicated 26% of voters in favor of Smith.

(2) A slightly later survey indicated 23% of voters favored Smith.

Therefore,

(3) It is likely that about 25% of voters will favor Smith in the election.

11. Argument with relevant, independent premises.

(1) The Toyota has better mileage than the Honda.

(2) The Toyota costs less than the Honda.

(3) The Toyota has a better repair record than the Honda.

Therefore,

(4) You should buy the Toyota.

12. See Answers to Selected Exercises.

13. Not an argument.

14. Argument with two irrelevant premises and one relevant independent premise.

(1) It was recorded that Christ chose only men for Apostles.

(2) The Catholic Church tradition is to imitate the Christ in choosing only men.

(3) The Catholic Church's authority has constantly held that the exclusion of women from the priesthood is in accordance with God's plan for his Church.

Therefore,

(4) It is not admissible to ordain women to the priesthood of the Catholic Church.

15. Main and Subargument with relevant, independent premises.

Subargument.

[1] Religious texts are not always right.

[2] The age of a text is not relevant to its containing truth.

Therefore,

(3) There is no reason to trust religious texts.

Main Argument.

(1) The natural world can be explained without a divine being.

(2) There is no reason to trust religious texts (conclusion from first argument).

Therefore,

(3) Atheists have reasons that support their view.

## Exercise 2.7 B

Answered above in Exercise 2.7 A.

## Exercise 2.7 C

(a) Argument 1

(1) There is reddish dirt on your foot.

(2) Deep dirt has been overturned near the Wigmore post office recently.

(3) The dirt near the Wigmore post office is difficult to avoid when entering the post office.

(4) The dirt near the post office is a reddish kind that is only known by Holmes to be near the post office (within the confines of the neighborhood).

Therefore,

(5) You were at the Wigmore Post-Office this morning.

Argument 2

(1) I sat next to you all morning and did not observe you writing a letter.

(2) I saw that you have enough stamps and postcards in your possession.

[3] The only reasons to go to the post office are to send a letter, buy stamps, buy postcards, or dispatch a telegram.

(4) You went to the Post-Office today [this is (5) from first argument above].

Therefore,

(5) You dispatched a telegram today.

(b)

Argument 1 is inductive because it is possible that one could have avoided the red dirt, or that the red dirt was from a different source.

Argument 2 is deductive because the unstated premises create a case where the conclusion must be true if the premises are true.

(c)

Argument1

The first premise depends on any one of the other three. The other three are somewhat dependent in that they have a cumulative effect that is greater than any one of them alone. However, as long as premise one was joined with at least one of the other three, the argument would still be somewhat strong, so that means there is some independent support for each of the second, third and fourth premise.

Argument2

The premises are all dependent, as long as the unstated premise is accepted. It has a valid argument form called Denying a Disjunct (that will be introduced in Chapter Five).

(d)

Argument 1

If we make the assumptions that Holmes is not a liar, this argument passes the True Premises test. This inductive argument passes the proper form test, because if all the premises were true, the conclusion would be very likely.

Argument 2

This argument does not do as well on the True Premises test. The unstated premise is clearly assumed by Holmes, but it is not always true. Moreover, Watson may have reason to buy even more postcards or stamps than Holmes thinks he needs and surely Watson could have penned his letter the previous day and just gone to mail it today. However, this deductive argument does pass the proper form test because it is valid. It is not sound because the unstated premise is not necessarily true.

## Exercise 2.8 A and 2.8 B

Student answers will vary.

## Exercise 2.9 A

1. Appeal to Popularity.

2. Appeal to Popularity.

3. Appeal to Tradition.

4. See Answers to Selected Exercises.

5. Easy Target.

6. Not an argument.

7. No Fallacy.

8. See Answers to Selected Exercises.

9. Two arguments. No fallacy.

10. Appeal to Popularity.

11. Easy Target.

12. See Answers to Selected Exercises.

13. Not an argument.

14. Appeal to Novelty.

15. Red Herring.

## Exercise 2.9 B

Student answers will vary.

## Exercise 2.10

1. Appeal to Ignorance.

2. Appeal to Tradition.

3. Appeal to Fear.

4. See Answers to Selected Exercises.

5. No fallacy.

6. Not an argument.

7. Begging the Question.

8. See Answers to Selected Exercises.

9. Appeal to Pity.

10. Ad Hominem.

11. Appeal to Popularity.

12. See Answers to Selected Exercises.

13. If taken as an argument with unstated premise, it would be an Appeal to Ignorance.

14. Appeal to Ignorance.

15. Begging the Question.

# Chapter Three

## Exercise 3.1 A

1. Empirical.

2. Empirical.

3. Empirical.

4. See Answers to Selected Exercises.

5. Not empirical.

6. Empirical.

7. Empirical.

8. See Answers to Selected Exercises.

9. Not empirical. Definitional.

10. Not empirical.

11. Empirical.

12. See Answers to Selected Exercises.

13. Not empirical. Definitional.

14. Not empirical. Definitional.

15. Empirical.

## Exercise 3.1 B

1. No.

2. No.

3. Yes.

4. See Answers to Selected Exercises.

5. No.

6. Yes.

7. No.

8. See Answers to Selected Exercises.

9. Can be assumed as an uncontroversially true definitional statement.

10. No.

11. Yes.

12. See Answers to Selected Exercises.

13. Yes.

14. No. Not a statement

15. No.

## Exercise 3.1 C

1. Yes.

2. No.

3. Yes.

4. See Answers to Selected Exercises.

5. No.

6. No.

7. No.

8. See Answers to Selected Exercises.

9. No.

10. No.

11. Yes.

12. See Answers to Selected Exercises.

13. Yes.

14. Yes.

15. No.

## Exercise 3.1 D

Student answers will vary.

## Exercise 3.1 E

Statements 2 and 3 are empirical.

## Exercise 3.1 F

Premises 2, 3 and 4 are all statements based on evidence from experimental data from an expert in a relevant field.

## Exercise 3.2 A

1. No.

2. No.

3. Yes.

4. See Answers to Selected Exercises.

5. No.

6. No.

7. No.

8. See Answers to Selected Exercises.

9. Yes.

10. No.

11. No.

12. See Answers to Selected Exercises.

13. Yes.

14. Yes.

15. No.

## Exercise 3.2 B

1. No.

2. No. Assumed as uncontroversially true empirical statement.

3. No. Assumed as uncontroversially true empirical statement.

4. See Answers to Selected Exercises.

5. No

6. No.

7. No

8. See Answers to Selected Exercises.

9. Yes

10. No

11. No. Assumed as uncontroversially true empirical statement.

12. See Answers to Selected Exercises.

13. No.

14. No.

15. No

## Exercise 3.2 C

Student answers will vary.

## Exercise 3.2 D

1. Empirical. Would make a good premise.

2. Empirical. Testimonial. Would make a good premise.

3. Definitional. Would make a good premise.

4. See Answers to Selected Exercises.

5. Definitional. Would make a good premise.

6. Empirical. Testimonial. Would make a good premise.

Note: Due to a type setting error, what should have been numbered #7-10 below are numbered 1-4 in the text.

[1] Definitional. Would make a good premise.

[2] Empirical. Would make a good premise.

[3] Empirical. Would make a good premise.

[4] Empirical. Would make a good premise.

## Exercise 3.2 E

Statement [1] is a definition. Statements [2], [3], and [4] are empirical. All three empirical statements are based on expert testimony, as indicated by the citation found in the citation index. The claims are based on scientific experiments and reported in an academic journal. Therefore, all four statements would make good premises.

## Exercise 3.2 F

1. Two testimonial statements would make good premises because they appear to be plausible empirical claims by a reliable expert.

2. Testimonial would make a good premise because it appears to be an uncontroversial definitional claim by a reliable expert.

3. Testimonial would make a good premise because it appears to be a plausible empirical claim by a reliable expert.

4. See Answers to Selected Exercises.

5. Empirical testimonial would make a good premise because it appears to be a plausible claim by a reliable expert.

## Exercise 3.3 A

1. The expert is CEO of Cooperative Grocers Association, Robyn Shrader, making claims about the organic food market. Can be assumed as plausible from reliable expert.

2. The expert is an internal document of Georgia State University Police, stating the penalty for employee drug use. Can be assumed as plausible from reliable expert.

3. Jason Stanley, Rutgers University professor, is making a plausible claim about a textbook. If it is in his area of expertise he can be assumed, with some reservations as the language appears to be exceptionally positive, as if approaching a marketing review as opposed to a direct evaluation, especially since the remarks are claimed to be “from the student’s point of view,” when presumably Stanley is not a student.

4. See Answers to Selected Exercises.

5. Donna Henderson-King, author of article in the academic *Journal of Higher Education*. Plausible claims by reliable expert are assumable.

6. Checking the List of Citations in the back of this textbook, you will find that Kyriacos Kareklas is the lead author of an article titled, “2013 Water-Induced Finger Wrinkles Improve Handling of Wet Objects.” Published in an academic journal, *Biology Letters.* Assuming that the journal and the biologist pass the five criteria for experts, this premise may be assumed as a definition by an expert.

7. The author of this empirical statement is the biologist noted in #6 above. It is a plausible empirical claim made by an expert so it may be assumed as a premise.

8. See Answers to Selected Exercises.

9. Aspirin users cannot be assumed to be reliable experts on acetylsalicylic acid, so the claim should not assumed.

10. Pierre Bourdieu, 20th century French sociologist, was a reliable expert; however, his claim is controversial, and so would not make a good assumable premise.

11. Raphael is the expert but since the claim is controversial it should not be assumed as a premise.

12. See Answers to Selected Exercises.

13. Looking at the List of Citations in the back of this textbook, you will see the source for these claims is Harvey Levenstein, “The Birth of Food Phobia: How industrialization, bad science and middle-class paranoia made us irrationally terrified of contamination,” published at www.salon.com/2012/03/24/the\_birth\_of\_food\_phobia/. If you go to the link, you will see that Harvey Levenstein is professor emeritus of history at McMaster University in Hamilton, Ontario. So you would assume these statements as plausible claims by an expert.

14. Alexandra Alter, reliable expert journalist reporting for *The New York Times*, makes plausible claims about what Brad Feldman, company representative, said. That he made these claims are assumable. However, the claims themselves (that people liked what they were hearing) cannot be assumed because Feldman works for the company with a stake in that result. His interpretation may be biased.

15. Same as #14. Journalist’s report is assumable. However, Alex Lundry, the person cited, works for the company about which the claim is made. His claim should not be assumed.

## Exercise 3.3 B

1. Would be a good premise. Uncontroversial empirical claim.

2. Would be a good premise. Plausible empirical claim by reliable expert journalist.

3. Would not be a good premise. The neighbor is not likely to be an expert on mortgages.

4. See Answers to Selected Exercises.

5. See above.

6. Would be a good premise. Plausible definitional claim made by reliable experts. The definition is somewhat controversial since it is fairly new (2005), but it is acceptable as a premise in an argument, since the majority of the expert astronomers in the society voted for the new definition.

7. May or may not be a good premise. This empirical claim may be plausible or not depending on what one knows about the capacity of the Hubble telescope’s range. If your research determines that the Hubble telescope of powerful enough to see Pluto and the asteroid belt, you could assume it as a premise.

8. See Answers to Selected Exercises.

9. Would be a good premise. Uncontroversial empirical claim given by an appropriate expert.

10. Would be a good premise. This is a definition that is easily verifiable.

11. Looking at the List of Citations in the back of this textbook you will find that the source for this passage is Cahoon, Donald R. and others. “Mass Tree Mortality Leads to Mangrove Peat Collapse at Bay Islands, Honduras after Hurricane Mitch.” *The Journal of* *Ecology* 91, no. 6 (2003): 1093–1105. Since it is an academic journal this would be a good premise because it is an empirical claim made by an expert.

12. See Answers to Selected Exercises.

13. Would not be a good premise. This statement is very interesting but is too controversial to assume, although it comes from a reliable expert. It is probably a conclusion.

14. May or may not be a good premise. Clooney’s claims could not be assumed on the basis of his career (a movie and theatre actor); however, he did travel to the area with his journalist father, so he may be somewhat of an expert on the problem. To that extent the claims are assumable as expert testimony from a reliable source.

15. Would not be a good premise. Does not meet the criterion of having expertise in the relevant field.

## Exercise 3.3 C

George W. Rainbolt, Professor and Chair at Georgia State University, B.A. at Oberlin College, Ph.D. at University of Arizona, Publications (Example): The Concept of Rights, Springer 2006, Awards: Named the Outstanding Junior Faculty Member in the College of Arts and Sciences at Georgia State University, 1997.

Sandra L. Dwyer: Senior Lecturer and Coordinator of Graduate Teaching at Georgia State University, Ph.D. at Emory University, B.A at James Madison University, Conference presentation (Example) “Is Hannah Arendt an Elitist,” Awards: Graduate Fellowship and Tuition Scholarship, Emory University.

## Exercise 3.3 D

Two Definitions

1. Part of the first sentence, that says, “a planet is a body that orbits a star, shines by reflecting the star’s light and is larger than an asteroid” is a definition.

2. The part of the next to the last sentence, that says “a planet [is] an object that orbits a star, is large enough to have settled into a round shape and crucially, ‘has cleared the neighborhood around its orbit,’’ is a definition.

The rest of the sentences in the passage are all empirical statements.

## Exercise 3.3 E

The two premises are assumable because they come from a reliable expert in a well-respected journal article (*Foreign Affairs*). Note that the conclusion, (3), is a statement about what experts believe. It is not a claim that what the experts believe is actually true.

## Exercise 3.4 A

Weakest 5, 3, 1, 2, 4. Strongest

## Exercise 3.4 B

1. Neither is warranted.

2. Neither is warranted.

3. Neither is warranted.

4. See Answers to Selected Exercises.

5. Scope is appropriate and strength is high but warranted.

6. Neither is warranted.

7. Neither is warranted.

8. See Answers to Selected Exercises.

9. Large scope and conclusion’s strength (probably “likely) is warranted.

10. Neither is warranted.

11. Neither is warranted.

12. See Answers to Selected Exercises.

## Exercise 3.4 C

1. There is a missing premise: Selena Gomez is a two-footed animal.

2. Selena Gomez is a two-footed animal.

3. Student answers will vary.

4. See Answers to Selected Exercises.

5. a or b depending on your evaluation of the sample size.

6. a.

7. a.

8. See Answers to Selected Exercises.

9. b.

10. b.

11. a (of those studied).

12. See Answers to Selected Exercises.

13. a.

14. b.

15. b.