A. Reconsider following imaginary discussions. (They were first presented in Exercises 1.5.) Find all the arguments in each discussion and put them into standard form.

1. Jack and Jill
   
   Jack: Let’s climb up that beanstalk.
   
   Jill: Stupid idea.
   
   Jack: Why?
   
   Jill: Don't you know that there is a mean giant at the top of the beanstalk?
   
   Jack: No way!!! Where did you hear that?
   
   Jill: I read about it in a book.
   
   Jack: What did it say in the book?
   
   Jill: There was some moron named "Jack" who climbed up a beanstalk and came face to face with a giant. The giant went after him and Jack had to scramble down the beanstalk to save his life.
   
   Jack: That's a totally different Jack.
   
   Jill: Yeah, but it might be the same beanstalk!!
   
   Jack: I hadn't thought of that. Let's get out of here!!!

There is only one argument in the passage. It is made by Jill.

(1) There might be a mean giant at the top of the beanstalk.
Tf,

(2) We should not climb the beanstalk.

2. Two emergency room physicians, Dr. Diagnosis (Dr. D) and Dr. Misdiagnosis (Dr. M).

   Dr. M: The patient is having a heart attack. We must immediately open the blocked arteries.
   
   Dr. D: Don’t do that. The patient is not having a heart attack. It is simply indigestion.
   
   Dr. M: But the patient is having severe chest pain, and there is a history of heart attacks in his family.
   
   Dr. D: Indeed. But look closely at the receipt that fell out of his pocket. And then inspect his hands.
   
   Dr. M: What are you talking about?
   
   Dr. D: It’s a receipt from Joe’s Greasy Fried Chicken Shack, and it shows that he ordered five portions of Super-Duper Deep Fat Totally Greasy chicken wings. And his hands have enough grease on them to lubricate every car in the state of California.

Dr. M makes this argument:

(1) The patient is having severe chest pain.
Tf,

(2) There is a history of heart attacks in the patient’s family.
Tf,

(3) Heart attacks are caused by blocked arteries. (Unstated premise)
Tf,

(4) We must immediately operate to open the patient’s blocked arteries.
Tf,

Dr. D makes this argument:

(1) The patient ordered five portions of Super-Duper Deep Fat Totally Greasy chicken wings.
Tf,

(2) The patient’s hands are very greasy.
Tf,

(3) The patient ate five portions of Super-Duper Deep Fat Totally Greasy chicken wings. (Unstated.)
Tf,

(4) The patient is having severe chest pain.
The chest pain is caused by indigestion.

We should not operate.

EXERCISES 2.1 (Section 1)

A. Consider the following arguments. Which of them pass the true premises test? Explain.

1. (1) Oxygen is an element essential for life on Earth as we know it.
   Therefore,
   (2) If oxygen were to vanish from the Earth’s atmosphere, life as we know it would cease.
   Passes.

2. (1) All birds can fly.
   (2) Penguins are birds.
   Therefore,
   (3) Penguins can fly.
   Fails. (1) is false.

3. (1) All cars are blue.
   (2) All pigs have wings.
   Therefore,
   (3) All buses have three wheels.
   Fails. (1) and (2) are false.

4. (1) Elephants are mammals.
   (2) Dogs are mammals.
   Therefore,
   (3) Elephants are dogs.
   Passes.

5. (1) Many types of plastic can be recycled.
   (2) Many types of glass can be recycled.
   Therefore,
   (3) Many types of paper can be recycled.
   Passes.

6. (1) Julia Roberts is either a man or a woman.
   (2) Julia Roberts is a man.
   Therefore,
   (3) Julia Roberts is not a woman.
   Fails. (2) is false.

7. (1) Everyone likes pizza.
   (2) Everyone who likes pizza buys it regularly.
   Therefore,
   (3) Pizza sales will rise over the next six months.
   Fails. (2) is false.

8. (1) If you drop a piece of wood into water, it floats unless it is held underwater by a heavy object.
   (2) Trees are made of wood.
   Therefore,
   (3) When trees fall into water, they float unless they are held underwater by a heavy object.
   Passes.

9. (1) The discovery of antibiotics increased life expectancy.
   (2) Antibiotics have no effect on viruses.
Therefore,
(3) There must be some causes of reduced life expectancy besides viruses.

Passes. You may have to do some research on antibiotics to know that (2) is true.

10. (1) All cars have three wheels.
(2) Everything with three wheels is blue.
Therefore,
(3) All cars are blue.

Fails. (1) and (2) are false.

11. (1) If you walk on the lines in the sidewalk, you will be eaten by bears.
(2) Sometime in the next week, someone will walk on the lines in the sidewalk.
Therefore,
(3) Sometime in the next week, someone will be eaten by bears.

Fails. (1) is false.

12. (1) I have seen 4,000 houses and every last one of them was purple.
Therefore,
(2) All houses are purple.

Fails. Unless “I” is a very odd person, (1) is false.

13. (1) I have seen 4,000 ducks and every last one of them had webbed feet.
Therefore,
(2) All ducks have webbed feet.

We don’t know. We don’t know who “I” is or how many ducks he has seen.

14. (1) Many people like candy.
(2) Many people like cats.
Therefore,
(3) Many people like going to the movies.

Passes.

15. (1) If walk to the store, you will get a latté.
(2) You did not get a latté.
Therefore,
(3) You did not walk to the store.

We don’t know. We don’t know who “you” is or whether s/he likes lattes.

C. Use the examples in Section 1 above as models for these exercises.
1. Compose two arguments that fail only the true premises test.
   (1) If Obama is elected president, then Palin will be vice president.
   (2) Obama will be elected president.
   T, T,
(3) Palin will be vice president.

   (1) All computers are pink.
   (2) All pink things are hairy.
   T, T,
(3) All computers are hairy.

2. Compose two arguments that fail only the good form test.
   (1) George is a teacher.
   (2) George likes the blues.
   T, T,
(3) All teachers like the blues.
The book for this course has more than 500 pages.
(2) Most cars run on gas.
Tf,
(3) It is sunny today.

3. Compose two arguments that fail both the true premises test and the good form test.
(1) If Obama is elected president, then Palin will be vice president.
(2) George will be elected president.
Tf,
(3) Palin will be vice president.

(1) All computers are red.
(2) All pink things are hairy.
Tf,
(3) All computers are hairy.

4. Compose two arguments that fail neither the true premises test nor the good form test.
(1) George is a teacher.
(2) George likes the blues.
Tf,
(3) Some teachers like the blues.

(1) The book for this course has more than 500 pages.
(2) Books that have more than 500 pages usually cost more than $10.
Tf,
(3) The book for this course probably costs more than $10.