

Chapter 3 Exercises

Negate each statement.

1. The puppy could not keep her eyes open after 10:00.
2. Jour means “the day” in French.
3. All houses have fireplaces.
4. Every senior that graduated had a job offer.

Construct the truth table for each compound statement.

$$5. (a \vee \sim b) \Rightarrow c \qquad 6. w \wedge (x \wedge \sim y)$$

7. If you and Kathy both go to the movies, then I will go as well.
8. I don't eat dessert and do not have a cup of coffee.

Write the converse, inverse, contrapositive, and biconditional for each conditional statement.

9. If my grade in this course is an A, then I can enroll in the next course.
10. If my car runs out of gas, then my car will not start.

Solve each problem.

11. Complete the truth table for $(p \wedge (p \Rightarrow q)) \Rightarrow q$.

Truth Table			
p	q	$p \Rightarrow q$	$(p \wedge (p \Rightarrow q)) \Rightarrow q$
T	T		
T	F		
F	T		
F	F		

12. If the bakery has fresh muffins, then I will buy some for my roommates. If I buy fresh muffins then my roommates will be happy. What can you deduce from these statements?
13. Which of the following is an example of inductive logic?
 - a. If you liked all of Richie Rock's movies, then you will also like his latest movie.
 - b. If there is an accident on the freeway, then we will be late for the play.
 - c. If I get a raise next week, then I can buy a new car.
 - d. I have to leave work early if the bank closes at 5:00 today.

Determine whether each arguments is valid or invalid.

14. Eagles have feathers.
Sparrows have feathers.
Ducks have feathers.
15. All birds have wings.
Ducks are birds.
Ducks have wings.
16. Some birds have feathers.
Sparrows are birds.
Sparrows have feathers.
17. All birds can fly.
Eagles are birds.
Eagles can fly.

Identify the premise and conclusion in each statement.

18. “If the Egyptian government had been doing what the IDF is doing during the Arab Spring, it would have been a very different picture,” he said, referring to the activists who used social media to organize protests that toppled Egypt’s Hosni Mubarak last year.¹⁰
19. “The most prominent advocates of global warming aren’t scientists,” said Heartland’s president, Joseph Bast. “They are Charles Manson, a mass murderer; Fidel Castro, a tyrant; and Ted Kaczynski, the Unabomber. Global warming alarmists include Osama bin Laden and James J. Lee (who took hostages inside the headquarters of the Discovery Channel in 2010).”¹¹

Identify each type of fallacy being used.

20. If you believe that a man who can cheat on his wife of 38 years will be honest with you on all levels, than you deserve what you get for voting for him.
21. “The only question is if Washington has the courage to seize this opportunity. If they do, this moment won’t be remembered as a drawn-out partisan showdown over spending, but as the launching pad from which we began to sail into a healthier, more prosperous future.”¹²

10 CNN, <http://www.cnn.com>

11 The Heartland Institute, <http://www.heartland.org>

12 CNN, <http://www.cnn.com>