

Skill Check Answers

1. Premise 1: If the weather is warm, we will go the beach. Premise 2: We're at the beach. Conclusion: It is warm outside. 2. Invalid 3. The argument is sound. 4. *Non sequitur*

3.4 Exercises

✓ CONCEPT CHECK

1. In an argument, the _____ provides support for the argument and the _____ is the ending statement.
2. A _____ is a statement that is true in every single possible circumstance.
3. A _____ argument must have true premises.
4. True or False: An argument can be valid as long as there is a logical connection between the premise and conclusion, even if the conclusion seems like nonsense.
5. True or False: Fallacies are caused by a faulty line of reasoning to reach a conclusion.

💡 PRACTICE

Identify the premise and conclusion in each argument.

6. “If the owners truly cared about the game and the fans, they would lift the lockout and allow the season to begin on time while negotiations continue,” NHLPA Executive Director Donald Fehr said.³
7. “Even if we stopped burning fossil fuels today, there is enough carbon dioxide in the atmosphere—and it is such a persistent, lasting gas—that temperatures will continue to rise for a few hundred years.”⁴
8. The sea level is rising because melting glaciers and ice sheets are adding more water to the oceans.
9. Fast food obesity has strikingly increased in many countries because of the easy availability of fast food in the grocery shops, gas stations and dispensers everywhere. So it is difficult to escape from the lure of these delicious advertisements and showcases.⁵
10. The current US population is approximately 314 million, about half of which are males, so if 2 percent of the 157 million American men suffer from one of these severe disorders (schizophrenia, major depression, or psychopathy), this results in a figure of 3,140,000.⁶

3 BBC, <http://www.bbc.co.uk>

4 BBC, <http://www.bbc.com>

5 ygoy, <http://www.ygoy.com>

6 *The Chronicle of Higher Education*, <http://www.chronicle.com>

11. “If a man is struck down by a heart attack in the street, Americans will care for him whether or not he has insurance.”⁷
12. An excerpt from the TV show *The West Wing*:⁸
 Press secretary, C. J., says, “. . . *USA Today* asks you (the president) why you don’t spend more time campaigning in Texas and you say because you don’t look good in funny hats.”
 “It was *big hats*,” Sam corrects her.
 “The point is we got whomped in Texas,” C. J. states.
 “We got whomped in Texas twice,” Josh adds.
 “We got whomped in the primary and we got whomped in November,” says C. J.
 “I think I was there,” replies the president.
 “And it was avoidable. Sir.”
 “C. J. on your tombstone, it’s going to read, ‘Post hoc, ergo propter hoc.’”

13. A cartoon by Randy Glasbergen.⁹



14. “Dear Friend, a man who has studied law to its highest degree is a brilliant lawyer, for a brilliant lawyer has studied law to its highest degree.” Oscar Wilde, *De Profundis*.
15. All potatoes have skin. I have skin. Therefore, I must be a potato.
16. During the fall of 2011, the movement “Occupy Wall Street” spread almost overnight into a nationwide/worldwide phenomenon. Many famous personalities voiced their opinions both for and against the movement. One film star claimed, “. . . they’re a bunch of posers, propping up the same corporate giant they’re trying to take down. I find it a little ironic that most of these kids not only own all the latest technology, but use it constantly while pretending to ‘take a stand.’ They’re a major player in the consumerism that goes on in this country.”

Determine whether each argument uses inductive or deductive reasoning, and whether the reasoning is valid.

17. The number pi (π) begins with 3.14159. Four is the only even digit when you write out the number π .

7 Fox News, <http://www.foxnews.com>
 8 Sorkin, *The West Wing*
 9 Courtesy of Randy Glasbergen
 ©HAWKES LEARNING

18. We have put up our Christmas tree the day after Thanksgiving every year for the last 5 years. A photograph from 2 years ago shows our Christmas tree in the background, so it couldn't have been taken before Thanksgiving.
19. We have put up our Christmas tree the day after Thanksgiving every year for the last 5 years. It's Black Friday today, so we must be putting up the Christmas tree.
20. All of my friends have smartphones. They must be the most popular type of cell phone.
21. In a survey of 200 adults, 5 out of 7 people said they carry smartphones as their cell phone. With 95% confidence, I can say that most people carry a smartphone as their cell phone.

Determine whether each argument is valid or invalid.

22. All pigs are pink. I am pink, therefore I must be a pig.
23. All professors at the university received a 3% raise this year. My dad is a psychology professor at the university, so he must have gotten a raise.
24. To renew a US passport for a child under 16, you need to demonstrate that he or she is a US citizen with either a US birth certificate or a valid US passport. I am renewing my daughter's passport, so I need her birth certificate.
25. Most people who live in California are Democrats. Stephanie lives in California, so she must be a Democrat.
26. All dogs bark. I have a dog. Therefore, my dog barks.
27. If it rains, I will need an umbrella. I do not need my umbrella so it must not be raining.
28. Most people who live in Kansas are Republicans. Jim lives in Kansas. Therefore, Jim is a Republican.

Determine the missing piece of information needed to make each argument valid.

29. I can only carry a bottle of liquid that is at most 3.4 fl oz in my carry-on luggage while flying. A larger bottle will be confiscated by airport security. My hand sanitizer got taken away when I went through airport security.
30. I was born on US soil. Therefore, I am a US citizen.
31. Whenever I play folk music, I tune my guitar to an open D tuning. This evening I am playing some folk music.
32. I am tired, so it must be late.

33. If you are not over 16, then you cannot apply for a driver's license in the state of Tennessee. Emma applied for a driver's license.
34. To get into the local state university, you must have a cumulative ACT score of at least 21. Ben's cumulative ACT score is less than 21.
35. If you buy a new car, then you cannot pay your student loan bills. You are able to pay your student loan bills.

Use a truth table to determine if the given argument is a sound argument.

36. If an album receives platinum certification, then at least 1,000,000 copies of the album were sold. Taylor Swift's album *Lover* received platinum status on September 27, 2019. So at least 1,000,000 copies of Taylor Swift's album *Lover* were sold.
 - a. Determine the premises and conclusion of the argument.
 - b. Write the argument using logic symbols.
 - c. Use a truth table to determine whether the argument is a valid argument.
 - d. Is the argument sound? Explain why or why not.
37. If a movie is extremely popular and financially successful, then it is considered a blockbuster. The 2009 movie *Avatar* was not a blockbuster. Therefore, *Avatar* was not popular nor financially successful.
 - a. Determine the premises and conclusion of the argument.
 - b. Write the argument using logic symbols.
 - c. Use a truth table to determine whether the argument is a valid argument.
 - d. Is the argument sound? Explain why or why not.

Identify the type of fallacy being used in each statement.

38. "Some people believe the answer to this problem is to wall off our economy from the world," he said this month in India, talking about migration of US jobs overseas. "I strongly disagree."
39. You must be an atheist. You never go to church on a Sunday morning.
40. On a discussion of the Treaty of Versailles in a history class, a student responds, "You said this happened five years before Hitler came to power. Why are you so fascinated with Hitler? Are you anti-Semitic?"
41. After hitting the side of the television, the picture on Emma's old television goes back into focus. Emma tells Karan that hitting the television fixed it.
42. Everyone drives over the speed limit on this road, so the city should raise the speed limit.
43. Can we really take his opinion on Star Wars seriously? He's a Star Trek fan!
44. It's healthy to take vitamins every day because they are good for you.
45. This cookie you made is burnt. You must be terrible at making cookies.