

## Chapter 1 Test C

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### MULTIPLE CHOICE

**INSTRUCTIONS:** The following selections relate to distinguishing arguments from nonarguments and identifying conclusions. Select the best answer for each.

1. Incandescent light bulbs eventually burn out because the high temperature of the filament causes tungsten atoms to fly off and collect on the inside of the bulb's glass. This loss of tungsten is slowed, but not prevented, by introducing argon inside the bulb's envelope. As more and more atoms are lost, the filament disintegrates. When this happens, no electricity flows through the filament, and the bulb produces no light.
- Argument; conclusion: Incandescent light bulbs eventually burn out.
  - Argument; conclusion: The high temperature of the filament ... the bulb's glass.
  - Argument; conclusion: The filament disintegrates.
  - Argument; conclusion: When this happens ... the bulb produces no light.
  - Nonargument.

ANS: E                      PTS: 2

2. The consequences of violence for children are very often grave and damaging. Violence may result in greater susceptibility to lifelong social, emotional and cognitive impairments. Related mental health and social problems include anxiety and depressive disorders, hallucinations, impaired work performance, memory disturbances and aggressive behavior. Early exposure to violence is also associated with later lung, heart and liver disease, fetal death during pregnancy, and suicide attempts.
- Paulo Sergio Pinheiro, *Report of the Independent Expert on Violence Against Children*
- Argument; conclusion: Violence may result ... cognitive impairments.
  - Argument; conclusion: Related mental health ... aggressive behavior.
  - Argument; conclusion: Early exposure to violence ... suicide attempts.
  - Argument; conclusion: The consequences of violence ... grave and damaging.
  - Nonargument.

ANS: D                      PTS: 2

3. Finding an identity as a Latino is a tricky issue in the United States because the pressure to assimilate is being repressed by the pressure to retain your roots. If you are deemed too assimilated into American culture, you are branded a "gringo" by your peers or even a turncoat to your blood and country. If you shun all American culture, you are branded as a freeloading malcontent who would be better off going back to where he came from. It is a lose-lose situation.
- Mario Feirro, Letter to the editor
- Argument; conclusion: Finding an identity ... in the United States.
  - Nonargument.
  - Argument; conclusion: If you are deemed too assimilated ... blood and country.
  - Argument; conclusion: If you shun all American culture ... where he came from.
  - Argument; conclusion: The pressure to assimilate ... retain your roots.

ANS: A                      PTS: 2

4. A crystal is a form of mineral that has grown in an orderly and symmetrical manner. When broken, it naturally divides into a common shape based on its structure. Crystals are the result of the atomic arrangement of atoms as they grow in a shape that can be duplicated many times. Crystals are made up of molecules that fit neatly together in an orderly way. All crystals of the same material have the same shape.

Edward F. Albin, *Earth Science Made Easy*

- a. Argument; conclusion: Crystals are the result ... duplicated many times.
- b. Argument; conclusion: When broken, it naturally divides ... its structure.
- c. Nonargument.
- d. Argument; conclusion: All crystals of the same material have the same shape.
- e. Argument; conclusion: A crystal is a form of mineral ... symmetrical manner.

ANS: C                      PTS: 2

5. Karl Marx believed that the key to human history was class conflict. According to Marxist theory, the bourgeoisie are locked in inevitable conflict with the proletariat. This bitter struggle can end only when members of the working class unite in revolution and throw off their chains of bondage. The result will be a classless society, one free of exploitation, in which everyone will work according to their abilities and receive according to their needs.

James M. Henslin, *Essentials of Sociology*

- a. Argument; conclusion: According to Marxist theory ... with the proletariat.
- b. Nonargument.
- c. Argument; conclusion: This bitter struggle can end ... their chains of bondage.
- d. Argument; conclusion: The result will be a classless society ... to their needs.
- e. Argument; conclusion: Karl Marx believed ... class conflict.

ANS: B                      PTS: 2

6. In general, whoever produces or distributes child pornography is subject to prosecution. But that rule is not absolute. For example, in 2002 the Supreme Court ruled that computer generated child porn is protected under the First Amendment. The Court reasoned that such pornography was permissible because no real children are exploited.

- a. Argument; conclusion: In general, whoever produces ... subject to prosecution.
- b. Nonargument.
- c. Argument; conclusion: That rule is not absolute.
- d. Argument; conclusion: The Court reasoned ... no real children are exploited.
- e. Argument; conclusion: In 2002 the Supreme Court ... First Amendment.

ANS: C                      PTS: 2

7. The three main parts of a neuron are the dendrites, cell body, and axon. The dendrites receive information from other neurons and pass it along to the cell body. The cell body decides whether the information should be passed on to other neurons. If it decides it should, then it does so by means of an electrical impulse that travels down the axon. When the impulse reaches the axon terminals, it triggers chemical communication with other neurons.

Richard Griggs, *Psychology: A Concise Introduction*

- a. Argument; conclusion: The cell body decides ... to other neurons.
- b. Argument; conclusion: The three main parts ... and axon.
- c. Argument; conclusion: The dendrites ... along to the cell body.
- d. Nonargument.
- e. Argument; conclusion: When the impulse reaches ... with other neurons.

ANS: D                      PTS: 2

8. Computerized scanning equipment has revolutionized the study of brain diseases and injuries. At best, conventional X-rays produce only shadowy images of the brain. Computed tomographic (CT) scanning is a specialized type of X-ray that does a much better job of making the brain visible. In a CT scan, X-ray information is collected by a computer and formed into an image of the brain. A CT scan can reveal the effects of strokes, injuries, tumors, and other brain disorders.

Dennis Coon and John O. Mitterer, *Psychology: A Journey*

- a. Nonargument.
- b. Argument; conclusion: A CT scan can reveal ... other brain disorders.
- c. Argument; conclusion: At best, conventional X-rays ... images of the brain.
- d. Argument; conclusion: Computed tomographic (CT) scanning ... brain visible.
- e. Argument; conclusion: Computerized scanning equipment ... and injuries.

ANS: E                      PTS: 2

9. If you go to foreign films, if you go to documentaries, if you go to independent films, if you go to good films, you will become a better person because you will understand human nature better. Movies record human nature in a better way than any other art form. That's for sure.

Roger Ebert

- a. Argument; conclusion: That's for sure.
- b. Nonargument.
- c. Argument; conclusion: If you go to foreign films ... a better person.
- d. Argument; conclusion: You will understand human nature better.
- e. Argument; conclusion: Movies record human nature ... any other art form.

ANS: C                      PTS: 2

10. If people buy cars that are more efficient, replace large appliances with energy efficient ones, unplug unused freezers and refrigerators, replace incandescent light bulbs with compact fluorescent models, and plant trees on private property and public land, then millions of tons of heat-trapping gasses will be kept out of the atmosphere, the current level of these gasses will be reduced, and the catastrophic consequences of global warming will be averted.

- a. Argument; conclusion: People buy cars ... private property and public land.
- b. Nonargument.
- c. Argument; conclusion: Millions of tons ... out of the atmosphere.
- d. Argument; conclusion: The catastrophic consequences ... will be averted.
- e. Argument; conclusion: Millions of tons of heat-trapping gasses ... will be averted.

ANS: B                      PTS: 2

11. The parallel concepts of the element and the atom constitute the very foundations of chemical science. An element is a substance that cannot be broken down into a simpler form capable of an independent existence as observable matter. As such, the concept of the element is a macroscopic one that relates to the world that we can observe with our senses. The atom is the microscopic realization of this concept. That is, it is the actual physical particle that is unique to each chemical element.

Stephen Lower, *Chem 1 Virtual Textbook*

- a. Nonargument.
- b. Argument; conclusion: The parallel concepts ... foundations of chemical science.
- c. Argument; conclusion: As such, the concept of the element ... realization of this concept.
- d. Argument; conclusion: It is the actual physical particle ... each chemical element.
- e. Argument; conclusion: An element is a substance ... as observable matter.

ANS: A                      PTS: 2

12. Earth science can be divided into four branches. Geology is the study of rocks, minerals, and forces that wear down the surface and build mountains. Meteorology covers weather, climate, and the atmosphere. Astronomy investigates planets, stars, and other features outside the atmosphere. The study of the oceans is called oceanography.

Scott Ryan, *Earth Science*

- a. Argument; conclusion: The study of the oceans is called oceanography.
- b. Argument; conclusion: Geology is the study of rocks ... build mountains.
- c. Argument; conclusion: Meteorology covers weather, climate, and the atmosphere.
- d. Nonargument.
- e. Argument; conclusion: Earth science can be divided into four branches.

ANS: D                    PTS: 2

13. Apple seeds and cherry pits are poisonous because they contain cyanide compounds. Your body can detoxify small quantities of these compounds, but larger doses can lead to difficulty in breathing, increased blood pressure and heart rate, and kidney failure. Reactions can include coma, convulsions, and death from respiratory arrest.

Anne Marie Helmstine, "Your Guide to Chemistry"

- a. Argument; conclusion: Apple seeds and cherry pits are poisonous.
- b. Argument; conclusion: Reactions can include ... respiratory arrest.
- c. Argument; conclusion: They contain cyanide compounds.
- d. Argument; conclusion: Your body can detoxify ... kidney failure.
- e. Nonargument.

ANS: A                    PTS: 2

14. The power that modifies, influences, and controls climate originates with the sun. The amount of sunlight striking a particular area of the globe determines the level of warmth and ultimately the movement of air and the amount of precipitation. Because the earth is a globe that rotates about a tilted axis, the amount of sunlight striking the earth varies by region and time.

Gary S. Moore, *Living with the Earth*, 3<sup>rd</sup> ed.

- a. Argument; conclusion: The power that modifies ... originates with the sun.
- b. Argument; conclusion: The earth is a globe that rotates about a tilted axis.
- c. Argument; conclusion: The amount of sunlight ... varies by region and time.
- d. Nonargument.
- e. Argument; conclusion: The amount of sunlight ... the amount of precipitation.

ANS: C                    PTS: 2

15. Native peoples, completely dependent on Mother Earth for everything in their lives, worshipped the Earth as a nurturing goddess that provided for all their needs. From the soil came plants and growing things that provided clothing and food. From the rivers and seas came fish and shellfish for food, trade articles, and tools. From the air came rain, snow, and wind to grow crops and alter the seasons. The Earth was never stagnant or dull, but always provided for those in her care.

Linda Williams, *Earth Science Demystified*

- a. Argument; conclusion: From the rivers and seas ... and tools.
- b. Argument; conclusion: From the soil came plants ... clothing and food.
- c. Argument; conclusion: The Earth was never stagnant ... in her care.
- d. Argument; conclusion: Native peoples ... all their needs.
- e. Nonargument.

ANS: E                    PTS: 2

16. Water is abundant over most of the earth's surface, and within the temperature range usually encountered there, it is liquid. Water also is a powerful solvent. Consequently, water is an excellent medium for the chemical processes of living systems. It is hard to imagine life having any other basis than water.

Robert E. Ricklefs, *The Economy of Nature*, 5<sup>th</sup> ed.

- a. Argument; conclusion: It is hard to imagine life having any other basis than water.
- b. Nonargument.
- c. Argument; conclusion: Water is abundant ... it is liquid.
- d. Argument; conclusion: Water is an excellent medium ... living systems.
- e. Argument; conclusion: Water also is a powerful solvent.

ANS: D                      PTS: 2

17. It is a fact that major life forms now on earth were not at all represented in the past. There were no birds or mammals 250 million years ago. It is a fact that major life forms of the past are no longer living. There used to be dinosaurs and Pithecanthropus, and there are none now. It is a fact that all living forms came from previously living forms. Therefore, all present forms of life arose from ancestral forms that were different: birds arose from nonbirds and humans from nonhumans.

R.C. Lewontin, "Evolution/Creation Debate: A Time for Truth"

- a. Argument; conclusion: It is a fact that all living forms ... previously living forms.
- b. Argument; conclusion: It is a fact that major life forms of the past are no longer living.
- c. Nonargument.
- d. Argument; conclusion: It is a fact that major life forms ... represented in the past.
- e. Argument; conclusion: All present forms of life ... forms that were different.

ANS: E                      PTS: 2

**INSTRUCTIONS:** The following problems relate to identifying and evaluating inductive and deductive arguments. Select the best answer for each.

18. After Sally stopped wearing Levi jeans, she started having vision problems. Therefore, to clear up her vision problems, Sally should go back to wearing her Levi's.
- a. Inductive, weak.
  - b. Deductive, unsound.
  - c. Inductive, strong.
  - d. Deductive, invalid.
  - e. Deductive, valid.

ANS: A                      PTS: 2

19. As global warming continues, the temperature of the world's oceans will rise. As ocean temperatures rise, hurricanes will become more intense. Therefore, hurricanes in the Caribbean will intensify in the years ahead.
- a. Inductive, weak.
  - b. Inductive, strong.
  - c. Deductive, valid.
  - d. Deductive, sound.
  - e. Deductive, invalid.

ANS: B                      PTS: 2

20. Given that figure A is an equilateral triangle, and one of its sides has a length of 1 foot. It follows that its area is less than 1 square foot.
- a. Inductive, strong.
  - b. Inductive, uncogent.

- c. Inductive, weak.
- d. Deductive, valid.
- e. Deductive, invalid.

ANS: D                      PTS: 2

21. James Watson, co-discoverer of the structure of the DNA molecule, says that Charles Darwin is the most important person to have ever lived. Therefore, it must be the case that Charles Darwin is indeed the most important person to have ever lived.
- a. Inductive, strong.
  - b. Deductive, invalid.
  - c. Inductive, weak.
  - d. Inductive, cogent.
  - e. Deductive, valid.

ANS: C                      PTS: 2

22. If the northern pike is a ferocious predator, then it is a threat to lake trout. The northern pike is indeed a threat to lake trout. Therefore, the northern pike is a ferocious predator.
- a. Inductive, weak.
  - b. Inductive, strong.
  - c. Deductive, valid.
  - d. Inductive, cogent.
  - e. Deductive, invalid.

ANS: E                      PTS: 2

23. Either Leonardo da Vinci or Andrew Wyeth painted the Mona Lisa. But it clearly wasn't da Vinci. Therefore, Andrew Wyeth painted the Mona Lisa.
- a. Inductive, weak.
  - b. Deductive, valid.
  - c. Deductive, invalid.
  - d. Deductive, sound.
  - e. Inductive, strong.

ANS: B                      PTS: 2

24. A week ago we invited Charlie to a party, and within two hours he became drunk and obnoxious. The same thing happened when Theresa invited him three weeks ago. Therefore, it would not be a good idea for Daisy to invite him to next week's party, because the same thing will probably happen again.
- a. Inductive, strong.
  - b. Deductive, invalid.
  - c. Inductive, weak.
  - d. Deductive, valid.
  - e. Inductive, cogent.

ANS: A                      PTS: 2

25. Henry and Carl, who are neighbors, are about the same age, and they both have heart conditions. Henry takes Digitoxin for his heart, and it relieves his symptoms. Therefore, it would be a good idea for Carl to take the same medicine for his heart.
- a. Deductive, valid.
  - b. Deductive, invalid.
  - c. Inductive, cogent.
  - d. Inductive, weak.

e. Inductive, strong.

ANS: D                    PTS: 2

26. Some statements about the human condition are commercial failures, since some novels are commercial failures, and some novels are statements about the human condition.

- a. Inductive, weak.
- b. Inductive, strong.
- c. Deductive, invalid.
- d. Deductive, valid.
- e. Inductive, unsound.

ANS: C                    PTS: 2

27. The pop-up message on your computer screen says "Earn \$10,000 per week. Call 306-981-4872." Therefore, if you call that number you can earn \$10,000 per week.

- a. Deductive, invalid.
- b. Deductive, valid.
- c. Inductive, strong.
- d. Inductive, cogent.
- e. Inductive, weak.

ANS: E                    PTS: 2

28. Louis graduated from college after Cheri, and Cheri graduated before Denise. Therefore, it follows necessarily that Louis graduated before Denise.

- a. Deductive, valid.
- b. Deductive, invalid.
- c. Inductive, strong.
- d. Inductive, sound.
- e. Inductive, weak.

ANS: B                    PTS: 2

29. No taggers are publicly spirited citizens, because all taggers are criminals, and no criminals are publicly spirited citizens.

- a. Inductive, cogent.
- b. Deductive, invalid.
- c. Deductive, valid.
- d. Inductive, weak.
- e. Inductive, strong.

ANS: C                    PTS: 2

30. After Scott started the engine in his old Chevy, the car backfired several times, and clouds of smoke came from the exhaust pipe. Apparently something must be wrong with the engine.

- a. Deductive, valid.
- b. Inductive, weak.
- c. Deductive, invalid.
- d. Inductive, strong.
- e. Inductive, cogent.

ANS: D                    PTS: 2

31. Laura is the sister of either Rachel or Sandy, and Sandy is the sister of Beth. Therefore, it follows necessarily that Laura is the sister of Beth.

- a. Deductive, invalid.
- b. Deductive, sound.
- c. Inductive, strong.
- d. Deductive, valid.
- e. Inductive, weak.

ANS: A                      PTS: 2

32. Beneath the image of Thomas Jefferson on this U.S. five-cent coin we see "1975." It must be the case that the coin was minted in 1975.
- a. Deductive, invalid.
  - b. Inductive, strong.
  - c. Deductive, valid.
  - d. Inductive, weak.
  - e. Deductive, sound.

ANS: B                      PTS: 2

33. When asked how to address the militaristic ambitions of Syria, two Republican senators said we should drop bombs on Damascus, and a third said we should invade. The obvious conclusion is that Republicans are all a bunch of war mongers.
- a. Inductive, strong.
  - b. Deductive, invalid.
  - c. Inductive, cogent.
  - d. Deductive, valid.
  - e. Inductive, weak.

ANS: E                      PTS: 2

34. If interest rates rise, then home sales will decline. Thus, if interest rates rise, then real estate prices will drop, because if home sales decline, then real estate prices will drop.
- a. Deductive, invalid.
  - b. Inductive, cogent.
  - c. Deductive, valid.
  - d. Inductive, weak.
  - e. Inductive, strong.

ANS: C                      PTS: 2

**INSTRUCTIONS:** Select the correct answer for each multiple choice question.

35. Which of the following are all nonarguments?
- a. Predictions, pieces of advice, reports.
  - b. Opinions, categorical syllogisms, explanations.
  - c. Expository passages, illustrations, disjunctive syllogisms.
  - d. Statements of belief, warnings, conditional statements.
  - e. Generalizations, causal inferences, propositions.

ANS: D                      PTS: 2

36. Which of the following are all inductive arguments?
- a. Generalizations, arguments from authority, arguments based on signs.
  - b. Disjunctive syllogisms, arguments based on mathematics, arguments from definition.
  - c. Causal inferences, arguments from definition, predictions.
  - d. Arguments from analogy, arguments from authority, hypothetical syllogisms.



e. Categorical syllogisms, arguments from authority, predictions.

ANS: A                   PTS: 2

37. Which of the following are all conclusion indicators?

- a. Implies that, accordingly, since.
- b. For the reason that, it follows that, inasmuch as.
- c. Therefore, for this reason, entails that.
- d. Hence, thus, given that.
- e. Given that, as indicated by, seeing that.

ANS: C                   PTS: 2

38. In the expression "Hard water causes spots on glass because it contains calcium and magnesium salts that remain when the water dries," the statement "It contains calcium and magnesium salts that remain when the water dries" is called the:

- a. Explanandum.
- b. Consequent.
- c. Premise.
- d. Conclusion.
- e. Explanans.

ANS: E                   PTS: 2

39. In the expression "If politicians engage in cover-ups, then they risk being prosecuted as criminals," the statement "They risk being prosecuted as criminals" is called the:

- a. Conclusion.
- b. Conditional.
- c. Antecedent.
- d. Explanandum.
- e. Consequent.

ANS: E                   PTS: 2

40. Any argument in which the conclusion actually follows with strict necessity from the premises is:

- a. Inductive and valid.
- b. Deductive and sound.
- c. Deductive and invalid.
- d. Deductive and valid.
- e. Inductive and cogent.

ANS: D                   PTS: 2

41. If an inductive argument has all false premises and a probably false conclusion, then we know:

- a. The argument is strong.
- b. Nothing, as such, about the argument's strength.
- c. The argument is cogent.
- d. The argument is valid.
- e. The argument is sound.

ANS: B                   PTS: 2

42. Which of the following is a sufficient condition for being a parent?

- a. Having sex.
- b. Getting pregnant.
- c. Giving birth.

- d. Getting married.
- e. Having a baby shower.

ANS: C                      PTS: 2

43. Which of the following is a necessary condition for making a cell phone call?
- a. Speaking clearly.
  - b. Turning the phone on.
  - c. Calling a friend.
  - d. Selecting a ring tone.
  - e. Inputting often used numbers.

ANS: B                      PTS: 2

44. Which of the following sentences is a statement?
- a. Lady Gaga is a brain surgeon.
  - b. Let's go to a restaurant tonight.
  - c. I suggest that you take a vacation.
  - d. Do you know Senator Garson?
  - e. Stop beating that drum this very minute.

ANS: A                      PTS: 2

**PROBLEM**

**INSTRUCTIONS:** The following problems relate to the counterexample method.

1. **PART A**

All evangelicals are political conservatives, so some fundamentalists are evangelicals, since some fundamentalists are political conservatives.

Which of the following correctly expresses the form of this argument?

- |                      |                      |                      |
|----------------------|----------------------|----------------------|
| a. All P are E.      | b. Some F are P.     | c. All E are H.      |
| <u>Some P are F.</u> | <u>Some F are E.</u> | <u>Some F are E.</u> |
| Some F are E.        | All E are P.         | Some F are P.        |
| d. All E are P.      | e. Some F are P.     |                      |
| <u>Some F are P.</u> | <u>Some F are E.</u> |                      |
| Some F are E.        | All P are E.         |                      |

**PART B**

Which of the following substitutions proves the argument invalid?

- a. E = fish, P = mammals, F = animals.
- b. E = dogs, P = animals, F = mammals.
- c. E = dogs, P = animals, F = cats.
- d. E = birds, P = dogs, F = fish.
- e. E = animals, P = cats, F = fish.

ANS:  
Part A: d  
Part B: c

PTS: 4

2. **PART A**

If shopping malls utilize video cameras, then the privacy of shoppers is invaded. Consequently, shopping malls utilize video cameras, because the privacy of shoppers is invaded.

Which of the following correctly expresses the form of this argument?

- a. If S then P.  
 $\frac{P}{S}$
- b. P  
 $\frac{S}{\text{If S then P.}}$
- c. If S then P.  
 $\frac{S}{P}$
- d. If P then S.  
 $\frac{P}{S.}$
- e. If P then S.  
 $\frac{S}{P}$

### PART B

Which of the following substitutions proves the argument invalid?

- a. M = Angelina Jolie stars in movies, P = Angelina Jolie is an actress.  
b. M = George Washington was beheaded, P = George Washington is dead.  
c. M = Abraham Lincoln was assassinated, P = Abraham Lincoln is dead.  
d. M = Tom Smith was killed in a plane crash, P = Tom Smith is dead.  
e. M = George Washington is dead, P = George Washington was beheaded.

ANS:

Part A: a

Part B: b

PTS: 4

### 3. PART A

Some movies are long comedies, for some movies are long, and some movies are comedies.

Which of the following correctly expresses the form of this argument?

- a. Some M are L.  
 $\frac{\text{Some M are C.}}{\text{Some M are LC.}}$
- b. Some M are LC.  
 $\frac{\text{Some M are L.}}{\text{Some M are C.}}$
- c. Some M are C.  
 $\frac{\text{Some M are LC.}}{\text{Some M are L.}}$
- d. Some LC are M.  
 $\frac{\text{Some M are L.}}{\text{Some M are C.}}$
- e. Some M are L.  
 $\frac{\text{Some M are C.}}{\text{Some LC are C.}}$

### PART B

Which of the following substitutions proves the argument invalid?

- a. M = birds, L = yellow, C = canaries.  
b. M = vegetables, L = green, C = peppers.  
c. M = animals, L = green, C = elephants.  
d. M = parrots, L = green, C = animals.  
e. M = elephants, L = red, C = cats.

ANS:

Part A: a

Part B: c

PTS: 4