

## **PRACTICE EXERCISES**

**1 – 27:** Test the validity of each argument.

- 1.** If I plant a tree, then I will get dirt under my nails. I didn't get dirt under my nails. Therefore, I didn't plant a tree.
- 2.** If I don't change my oil regularly, my engine will die. My engine died. Thus, I didn't change my oil regularly.
- 3.** All frogs are amphibians. All frogs have gills. Therefore, all amphibians have gills.
- 4.** You will meet a tall, handsome stranger or you will stay home and pick fleas off of your cat. You didn't meet and tall, handsome stranger. Therefore, you stayed home and picked fleas off of your cat.
- 5.** If I don't tie my shoes, then I trip. I didn't tie my shoes. Hence, I tripped.
- 6.** All racers live dangerously. Gomer is a racer. Therefore, Gomer lives dangerously.
- 7.** If you aren't polite, you won't be treated with respect. You aren't treated with respect. Therefore, you aren't polite.
- 8.** If you are kind to a puppy, then he will be your friend. You weren't kind to that puppy. Hence, he isn't your friend.
- 9.** If you drink Surge, then you won't fall off of your skateboard. You fell off of your skateboard. Therefore, you didn't drink Surge.
- 10.** If I don't pay my income taxes, then I file for an extension or I am a felon. I'm not a felon and I didn't file for an extension. Therefore, I paid my income taxes.
- 11.** I wash the dishes or I don't eat. I eat. Thus, I wash the dishes.
- 12.** All protons are subatomic particles. All neutrons are subatomic particles. Hence, all protons are neutrons.
- 13.** All sneaks are devious. All swindlers are sneaks. Therefore, all swindlers are devious.
- 14.** All superheroes wear capes. The Masked Gomer wears a cape. Hence, The Masked Gomer is a superhero.
- 15.** All wolverines are cuddly. No weasels are wolverines. Thus, no weasels are cuddly.
- 16.** If you want to be a used-car salesman, then you have to be a flashy dresser. You don't want to be a used-car salesman. Thus, you don't have to be a flashy dresser.

17. If an animal is cute, then it isn't a squid. This animal isn't a squid. Therefore, this animal is cute.
18. If you play golf during a thunderstorm, you'll get hit by lightning. You didn't get hit by lightning. Therefore, you didn't play golf during a thunderstorm.
19. I will run for office or I will shut my mouth. I ran for office. Thus, I didn't shut my mouth.
20. If I am literate, then I can read and write. I can read but I can't write. Thus, I am not literate.
21. If it rains or snows, then my roof leaks. My roof is leaking. Thus, it is raining and snowing.
22. All cyclists wear helmets. Gomer doesn't wear a helmet. Therefore, Gomer isn't a cyclist.
23. All firefighters wear red suspenders. Gomer wears red suspenders. Therefore, Gomer is a firefighter.
24. All Yugo-owners are used to hitchhiking. Gomer isn't a Yugo-owner. Therefore, Gomer isn't used to hitchhiking.
25. If I lose my keys, then I can't start my car. If I lose my keys, then I can't get in my house. Therefore, if I can't start my car, then I can't get in my house.
26. If an animal is a squid, then it has tentacles. If an animal is an octopus, then it has tentacles. Therefore, if an animal is a squid, then it is an octopus.
27. If you are a fire-eater, then you work in the circus. If you don't like cotton candy, then you don't work in the circus. Therefore, if you are a fire-eater, then you like cotton candy.

### ANSWERS TO PRACTICE EXERCISES

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|-------------------------------------|----------------------------------|
| 1. Valid (contrapositive reasoning) | 2. Invalid (fallacy of converse) |
| 3. Invalid (false chain)            | 4. Valid (disjunctive syllogism) |
| 5. Valid (direct reasoning)         | 6. Valid (direct reasoning)      |
| 7. Invalid (fallacy of converse)    | 8. Invalid (fallacy of inverse)  |
| 9. Valid (contrapositive reasoning) | 10. Valid (use truth table)      |

- 11.** Valid (disjunctive syllogism)
- 13.** Valid (transitive reasoning)
- 15.** Invalid (false chain)
- 17.** Invalid (fallacy of converse)
- 19.** Invalid (not disjunctive syllogism)
- 21.** Invalid (use truth table)
- 23.** Invalid (fallacy of converse)
- 25.** Invalid (false chain)
- 27.** Valid (transitive reasoning)

- 12.** Invalid (false chain)
- 14.** Invalid (fallacy of converse)
- 16.** Invalid (fallacy of inverse)
- 18.** Valid (contrapositive reasoning)
- 20.** Valid (use truth table)
- 22.** Valid (contrapositive reasoning)
- 24.** Invalid (fallacy of inverse)
- 26.** Invalid (false chain)