

Argument – put in variables for phrases

Symbolic Form

Name and Valid or Invalid

6. If you pay your tuition late,
then you will pay a late penalty.
You do not pay your tuition late.

Therefore, you will not pay a late penalty.

7. If you perform maintenance on your PC,
then you violate your warranty.
You do not perform maintenance on your PC.

Therefore, you do not violate your warranty.

8. If you watch *The Apprentice*,
you will succeed in business.
If you succeed in business,
then you will have a skyscraper named after you.

Therefore, if you watch *The Apprentice*,
you will have a skyscraper named after you.

9. If June 1 is Monday, then June 2 is Friday.
If June 2 is Friday, then June 5 is Wednesday.

Therefore, if June 1 is Monday, then June 5 is Wednesday.

10. If you do not buy the sports package,
then you will not get the leather seats.
You do get the leather seats.

Therefore, you did buy the sports package.

11. If you love me, then you will do everything I ask.
You do not do everything I ask.

Therefore, you do not love me.

Name _____

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12. If Phillipe joins the basketball team,
then he will not be able to work part time.
Phillipe did not join the basketball team.

Therefore, he will be able to work part time.

13. If Sarah gets a raise, then she will be able to
afford a bigger apartment.
Sarah gets a raise.

Therefore, Sarah will be able to afford a
bigger apartment.

14. If Malik buys a satellite dish, then he will
get 128 TV channels.
Malik does not get 128 TV channels.

Therefore, he did not buy a satellite dish.

15. If you cut the amount of fat in your diet,
then you will have more energy.
You don't have more energy.

Therefore, you did not cut the amount of fat
in your diet.

16. Minxia took the job in Boston or San Diego.
Minxia did not take the job in Boston.

Therefore, Minxia did take the job in San Diego.

17. Rob will take the \$1000 rebate or the interest-free loan.
Rob will not take the \$1000 rebate.

Therefore, Rob will take the interest-free loan.

Compute the truth table to decide whether each argument is valid or not. Remember that you have to connect the argument parts with “and” and then connect that to the conclusion with the conditional.

Truth Tables here or on a separate sheet:

18.

$$\begin{array}{l} p \\ q \rightarrow \sim p \\ \hline \therefore \sim q \end{array}$$

19.

$$\begin{array}{l} p \\ \sim q \rightarrow p \\ \hline \sim p \vee q \end{array}$$

20.

$$\begin{array}{l} \sim r \\ r \rightarrow q \\ \hline \therefore \sim q \wedge r \end{array}$$

21.

$$\begin{array}{l} p \\ \sim q \rightarrow \sim p \\ \hline \therefore q \end{array}$$

Name _____

22.

$$\sim q \rightarrow p$$

$$r \rightarrow \sim q$$

$$\therefore \sim p \rightarrow r$$

23.

$$p$$

$$\sim q \rightarrow \sim p$$

$$(p \wedge q) \rightarrow r$$

$$\therefore q \rightarrow r$$

24.

$$p$$

$$q \rightarrow \sim p$$

$$q \rightarrow (r \wedge p)$$

$$\therefore r$$

Read each argument. Think about it whether the argument makes sense. Write them symbolically.
Then circle “Valid” or “Invalid” for the argument.

25. If the product has a lower price,
then the product does not have quality.
If the product does not have a lower price or
does not have quality, then the product
is not reliable.
The product has a lower price.

Therefore, the product is reliable

Valid or Invalid?

26. If the team wins this game, then they
will qualify for the playoffs.
The team will play in a tournament or will
not qualify for the playoffs.
The team wins this game.

Therefore, the team will play in a tournament and
will qualify for the playoffs.

Valid or Invalid?

27. If you buy from a reputable breeder, then
your puppy will not require shots.
If you do not buy from a reputable breeder,
then it will cost you extra.
It will not cost you extra.

Therefore, your puppy will not require shots.

Valid or Invalid?

28. If health care is not improved, then the quality
of life will not be high.
If health care is improved and the quality of life is high,
then the incumbents will be reelected.
The quality of life is high.

Therefore, the incumbents will be reelected.

Valid or Invalid?

Now go back and do truth tables for problems 25-28 above to check your answers on a separate sheet of paper.