

English to Symbolic Form



1. If it rains, then I will stay at home.

Answer:

p : It rains

q : I will stay at home

So, the symbolic form is $p \rightarrow q$



English to Symbolic Form

2. If I will go to Australia, then I will earn more money.

Answer:

p : I will go to Australia

q : I will earn more money

So, the symbolic form is $p \rightarrow q$



English to Symbolic Form

3. He is poor but honest.

Answer:

p : He is poor

q : He is honest

So, the symbolic form is $p \wedge q$



English to Symbolic Form

4. If $a = b$ and $b = c$ then $a = c$.

Answer:

$p : a = b$

$q : b = c$

$r : a = c$

So, the symbolic form is $(p \wedge q) \rightarrow r$



English to Symbolic Form

5. Neither it is hot nor cold today.

Answer:

- This sentence is of the form- “Neither p nor q”.
- “Neither p nor q” can be re-written as “Not p and Not q”.

p : It is hot today

q : It is cold today

So, the symbolic form is $\sim p \wedge \sim q$



English to Symbolic Form

6. He goes to play a match if and only if it does not rain.

Answer:

p : He goes to play a match

q : It does not rain

So, the symbolic form is $p \leftrightarrow q$



English to Symbolic Form

7. Birds fly if and only if sky is clear.

Answer:

p : Birds fly

q : Sky is clear

So, the symbolic form is $p \leftrightarrow q$



English to Symbolic Form

8. “I will go only if he stays.”

Answer:

p : I will go

q : He stays

So, the symbolic form is $p \rightarrow q$



English to Symbolic Form

9. “I will go if he stays.”

Answer:

p : He stays

q : I will go

So, the symbolic form is $p \rightarrow q$



English to Symbolic Form

10. “It is false that he is poor but not honest.”

Answer:

p : He is poor

q : He is honest

So, the symbolic form is $\sim(p \wedge \sim q)$



English to Symbolic Form

11. “It is false that he is poor or clever but not honest.”

Answer:

p : He is poor

q : He is clever

r : He is honest

So, the symbolic form is $\sim((p \vee q) \wedge \sim r)$



English to Symbolic Form

12. “It is hot or else it is both cold and cloudy.”

Answer:

p : It is hot

q : It is cold

r : It is cloudy

So, the symbolic form is $p \vee (q \wedge r)$