

Law of Syllogism

1. True or False. If an argument is valid, then it is true.

2. True or False: The following argument is valid

$$\begin{array}{l} p \longrightarrow q \\ \underline{r \longrightarrow q} \\ \therefore p \longrightarrow r \end{array}$$

3. True or false. The following argument is valid

$$\begin{array}{l} p \longrightarrow q \\ \underline{q \longrightarrow r} \\ \therefore p \longrightarrow r \end{array}$$

Using valid reasoning, write the necessary conclusions in 4 –

4. If it rains, the sidewalks are wet.
If the sidewalks are wet, then it is damp.
5. If 2 \angle s are straight \angle s, they have the same measure.
If angles have the same measure, they are congruent.
6. If the wheat grows, we must have rain.
If we have rain, the Patriots win the Super Bowl.
7. If it is spring, the birds will sing.
If the birds sing, the cats will chase the birds
8. If you have a job, you are not lazy
If you are not lazy, you will earn money.