Week 1 Assignment

Due on Monday, 10/21. The submission deadline is 5:00 PM.

The data for the first assignment is below.

Assume our record if you do not understand this assignment.

Prepositional Logic
Complements prepositional operators, negation, equivalence, entailment, validity.

1. Select the correct result(s): 1 point

(a) \( p \to q \lor p \)
(b) \( p \lor q \lor p \)
(c) \( p \lor q \to p \lor q \)
(d) \( p \lor q \to p \land q \)

2. Which of the following are true? 1 point

(a) \( p \lor q \land p \land q \)
(b) \( p \land q \lor p \land q \)
(c) \( p \land q \lor p \land q \)
(d) \( p \lor q \land p \land q \)

3. Which of the following are true for any proposition \( p \)? 1 point

(a) \( p \lor p \)
(b) \( p \land p \)
(c) \( p \lor q \)
(d) \( p \land q \)

4. How many logical statements are in the following?

(a) \( p \land q \lor p \land q \)
(b) \( p \lor q \land p \land q \)
(c) \( p \land q \lor p \land q \)
(d) \( p \lor q \land p \land q \)

5. Which of the following are true? 1 point

(a) \( p \lor q \land p \land q \)
(b) \( p \land q \lor p \land q \)
(c) \( p \land q \lor p \land q \)
(d) \( p \lor q \land p \land q \)

6. Which of the following are true for any proposition \( p \)? 1 point

(a) \( p \lor p \)
(b) \( p \land p \)
(c) \( p \lor q \)
(d) \( p \land q \)

7. Which of the following are true for any propositions \( p \) and \( q \)? 1 point

(a) \( p \lor q \lor p \lor q \)
(b) \( p \land q \lor p \land q \)
(c) \( p \land q \lor p \land q \)
(d) \( p \lor q \lor p \lor q \)

8. Which of the following are true for any propositions \( p \) and \( q \)? 1 point

(a) \( p \lor q \lor p \lor q \)
(b) \( p \land q \lor p \land q \)
(c) \( p \land q \lor p \land q \)
(d) \( p \lor q \lor p \lor q \)