

Geometry

Name _____

2.2 Logic

Date _____ Hour _____

Use the following statements to write a compound statement for each conjunction and disjunction. Then find its truth value.

$p: \sqrt{-64} = 8$

q : A triangle has three sides.

$r: 0 < 0$

s : An obtuse angle measures greater than 90 and less than 180.

1) q and r

2) q or r

3) $\sim q \wedge r$

4) $r \vee p$

5) Determine the truth value for this compound statement. $(\sim p \wedge q) \vee s$

(6-8) In a school of 310 students, 80 participate in academic clubs, 115 participate in sports, and 20 students participate in both.

6) Make a Venn diagram of the data.

7) How many students participate in either academic clubs or sports?

8) How many students do not participate in either academic clubs or sports?

9) Construct a truth table for the compound statement: $q \wedge \sim r$