

Name: \_\_\_\_\_

Unit 2: Logic & Proof



Date: \_\_\_\_\_ Per: \_\_\_\_\_

Homework 2: Compound Statements

**\*\* This is a 2-page document! \*\***

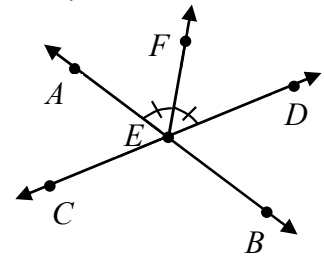
**Directions:** Use the statements below along with the diagram to write compound statements. Then give its truth value.

$p$ : Points  $C$ ,  $E$ , and  $B$  are collinear.

$q$ :  $\angle AEC \cong \angle DEB$

$r$ :  $\overrightarrow{EF}$  is the angle bisector of  $\angle AED$

$s$ :  $\angle BEC$  is an acute angle.



1.  $p \vee q$ : \_\_\_\_\_  
\_\_\_\_\_ Truth Value: \_\_\_\_\_

2.  $q \wedge s$ : \_\_\_\_\_  
\_\_\_\_\_ Truth Value: \_\_\_\_\_

3.  $\sim p \wedge r$ : \_\_\_\_\_  
\_\_\_\_\_ Truth Value: \_\_\_\_\_

4.  $r \vee \sim s$ : \_\_\_\_\_  
\_\_\_\_\_ Truth Value: \_\_\_\_\_

5.  $\sim q \wedge \sim r$ : \_\_\_\_\_  
\_\_\_\_\_ Truth Value: \_\_\_\_\_

6.  $p \vee \sim q$ : \_\_\_\_\_  
\_\_\_\_\_ Truth Value: \_\_\_\_\_

7.  $\sim r \vee \sim s$ : \_\_\_\_\_  
\_\_\_\_\_ Truth Value: \_\_\_\_\_

8.  $\sim q \wedge s$ : \_\_\_\_\_  
\_\_\_\_\_ Truth Value: \_\_\_\_\_

9.  $p \vee r$ : \_\_\_\_\_  
\_\_\_\_\_ Truth Value: \_\_\_\_\_

**Directions:** Complete each truth table.

10.  $p \wedge r$


11.  $q \vee s$


12.  $\sim q \vee r$


13.  $\sim p \wedge \sim s$


14.  $r \wedge (\sim p \vee q)$


15.  $(p \vee \sim r) \wedge \sim q$
