

Name: \_\_\_\_\_ Quiz 1

1) Translate the sentence below into logical symbolism

“Either Alice is going to Orlando, or she will be sad whenever she sees a Disney film”

P: “Alice is going to Orlando”

Q: “Alice is sad”

R: “Alice is watching a Disney film”

$P \vee (R \Rightarrow Q)$

2) Translate the sentence below into mathematical symbolism

“Every real number is equal to 5”

$\forall x \in \mathbb{R} (x = 5)$

3) Below is a partial proof of the statement below. Finish the proof by filling in the blanks.

“If  $x > 2$  and  $3y + 2 = 8$ , then  $3x + y^2 > 10$ ”

| Line | Statement       | Reasoning  |
|------|-----------------|--|
| (1)  | $x > 2$         | Premise _____  |
| (2)  | $3y + 2 = 8$    | Premise _____  |
| (3)  | $y = 2$         | Algebra on line 2 (Solve the equation)   |
| (4)  | $y^2 = 4$ _____ | Algebra on line 3 (Square both sides of the equation _____)                                      |
| (5)  | $3x > 6$ _____  | Algebra on line 1 (Multiply both sides by 3 _____)   |
| (6)  | $3x + y^2 > 10$ | Combine lines 4 and 5 by adding the left sides together and also adding the right sides together |