

MATH 101 QUIZ #2 (SPRING 2021)

**1** Negate “No pets are allowed in this park.” *Some pets are allowed in this park.*

**2** Negate “Some pine trees are not green.” *All pine trees are green.*

For the remaining problems let

*p: The temperature is 90°.*

*q: The air conditioner is working.*

*r: The apartment is hot.*

**3a** Write in symbolic form: “If the temperature is 90°, then the air conditioner is working or the apartment is not hot.”  *$p \rightarrow (q \vee \neg r)$ .*

**3b** Write in symbolic form: “The temperature is not 90° and the air conditioner is working, but the apartment is hot.”  *$(\neg p \wedge q) \wedge r$ .*

**4a** Write in words:  $(q \wedge r) \rightarrow p$ . *If the air conditioner is working and the apartment is hot, then the temperature is 90°.*

**4b** Write in words:  $(q \leftrightarrow r) \wedge \neg p$ . *The air conditioner is working if and only if the apartment is hot, and the temperature is not 90°.*