

QUIZ-3

Name:

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Please show all your work!

1. Determine the truth value of the statement $\exists x \exists y (x + 2y = 2 \vee 2x + 4y = 5)$.
Suppose that the universe of discourse of each variable consists of all real numbers.
2. Determine whether the following is a valid argument.
if x^2 is irrational, then x is irrational. Therefore, if x is irrational, it follows that x^2 is irrational.
3. Prove that the product of two odd number is odd.
4. Show that these two statements are equivalent.
(i) x is irrational
(ii) $3x+2$ is irrational