

QUIZ-4(Take home)

Math/CSCI 2610 Fall 2004

Name:

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Please show all your work!

1. For (i)  $n$  is an odd integer. (ii)  $5n + 4$  is an odd.  
Prove that (ii)  $\rightarrow$  (i).

2. Let  $f: \mathbf{A} \rightarrow \mathbf{B}$  where  $\mathbf{A} = \mathbf{B} = \text{set of integers}$  and  $f$  is given by  $f(x) = 5x - 3$   
Is  $f$  surjective? Give a complete argument supporting your answer.

3. Write the negation of the following statement  
 $\forall x(P(x)) \rightarrow \forall x \exists y(P(x) \wedge \neg Q(y))$