Math 2200. Discrete Mathematics. Lecture 2. 08.28.08

1. Let $Q(x)$ be the statement "$x + 1 > 2x$". If the domain consists of all integers, what are these truth values?

$$a)Q(-1);\ b)Q(1);\ c)\forall x\overline{Q}(x);\ d)\exists x\overline{Q}(x).$$

2. Express each statement using quantifiers. Then find the negation of the statement.

1. Some old dogs can learn new tricks.
2. Every bird can fly.
3. There is a student who has taken more than 21 credit hours in a semester and received all A's.
4. The sum of two negative integers is negative.
5. Every movie actor has either been in a movie with Kevin Bacon or has been in a movie with someone who has been in a movie with Kevin Bacon.

3. An argument (by Lewis Carroll). Express with quatifiers:

(p1) All lions are fierce.

(p2) Some lions do not drink coffee.

(c) Some fierce creatures do not drink coffee.