Study Unit 10

Activity 10-7

For each of (a) to (d) of Activity 10-6, try to decide whether the original statement is true or whether its negation is true or whether neither of the two is true.

(a) The original statement is false. 1, 2 and 3 are elements of $\mathbb{Z}^+$ and they are not greater than 3.
The negation of the statement is true for x = 1, 2 and 3.

(a) The original statement is true. Choose x = 2. Then 2x = 4 and $x^2 = 4$.

(b) The negation of the statement is true. Choose x = 0. Then $x \leq 0$ and $x^2 \leq 0$.

(d) The original statement is true. It holds for the elements 1, 2, …, 10. All elements of $\mathbb{Z}^+$ are > 0.