

Question 2

Part a

$$\exists x \forall y (xy = y)$$

There exists a number x such that for all y , $x \times y = y$

Part b

$$\forall x \forall y (((x \geq 0) \wedge (y < 0)) \rightarrow (x - y > 0))$$

For every real number x and every real number y , if x is greater than or equal to 0 and y is less than 0, $x - y$ is greater than 0.

Part c

$$\forall x \forall y \exists z (x = y + z)$$

For every real number x and every real number y , there exists a real number z such that $x = y + z$.