Mathematics 300

You must show your work to get full credit.

For the statement
$$(\exists r \in \mathbb{Q})(r^2 = 2)$$

(1) Write this as an English sentence with no symbols.

There is a rational number whose square is two.

(2) Write the negation in symbols. $(\forall r \in \mathbb{Q})(r^2 \neq 2)$

(3) Write the negation as an English entice with no symbols.

The square of any rational number is not equal to two.