Question 1

$\forall p \in \mathbb{N} \quad \forall q \in \mathbb{N} \quad p \neq q \ (P(p) \ \wedge \ P(q)) \implies \forall r \in \mathbb{N} \ ((\frac{q^p - 1}{q - 1}) \neq (\frac{p^q - 1}{p - 1}) \times r)$