MAT337H1, Introduction to Real Analysis: recommended problems for Jan 6 class

1. Explain why any rational number can be written as $\dfrac{p}{q}$ where $p, q \in \mathbb{Z}$, $q \neq 0$, and at least one of the numbers p, q is odd.

2. Show that if $x \in \mathbb{Q}$, and $x^2 \in \mathbb{Z}$, then $x \in \mathbb{Z}$.