Quiz 16   Name:_____

You must show your work to get full credit.

In doing these problems you are allowed to use that the set of rational numbers is closed under addition, subtraction, multiplication, and (when defined) division.

1. If r and s are rational numbers with $r \neq 0$, show $\dfrac{s - r - 1}{r}$ is rational.

2. Let θ be irrational and r rational with $r \neq 0$. Show $s = r\theta + r + 1$ is irrational.