1.1.11 Let a and b be real numbers with a < b. Prove that there are integers m and $n \neq 0$ so that $a < \frac{m}{n} < b$

Proof:	$a < b \Rightarrow b - a > 0$	Definition of positivity
	$\Rightarrow \exists$ n $\in$ N $\ni n(b-a) > k \quad \forall k \in$ R, $n \neq 0$	Archimedean property
	$\Rightarrow nb - na > 1$	Distributive property
	$\Rightarrow nb > 1 + na > na$	
	Define m $\equiv$ smallest integer less than or equal to 1 + na	
	$\Rightarrow nb > m > na$	
	$\Rightarrow a < \frac{m}{n} < b$	Since $n \neq 0$