Worksheet 3: More practice with ring homomorphisms and rings. Intro. to ideals.

1. Let $R$ be a ring. Use the ring axioms to show that for any $a \in R, a \times 0=0$. Hint: Consider $a(0+1)$.
2. Let $R$ a ring and $I$ an ideal of $R$. If $I$ contains 1 , what dooes $I$ have to be?
3. Show that the kernel of a homomorphism is an ideal.
