Proposition 9.18: For all $m, n \in \mathbb{Z}$,

$$e(m \cdot n) = e(m) \cdot e(n).$$

Proof. Your proof goes here. Attempt maximal laziness. $\square$

Lemma 11.A: Suppose $a, b \in \mathbb{Z}$ and $b \neq 0$. Let $g = \gcd(a, b)$, so $g \in \mathbb{N}$, $g \mid a$ and $g \mid b$. Then

$$\gcd\left(\frac{a}{g}, \frac{b}{g}\right) = 1.$$

Proof. Recall that if $c \mid d$, and $c \neq 0$, then $\frac{c}{d}$ is the unique integer j such that $c = jd$.

Feel free to use Proposition 6.30! $\square$

Proposition 8.50: If the sets A and B are bounded above and non-empty, and if $A \subseteq B$, then $\sup A \leq \sup B$.

Proof. Your proof goes here. $\square$