

**Def.** For  $r \in \mathbb{R}$  and  $B \subseteq \mathbb{R}$ , define  $rB := \{rb : b \in B\}$ .

In class we showed

**Thm 1.** Let  $T$  be a nonempty bounded-above subset of  $\mathbb{R}$ . Let  $c > 0$ . Then  $\sup(cT) = c \sup T$ .

**Variant of book's ER 2.4.4a**

§2.4  
BS4p45

Let  $S$  be a nonempty bounded subset of  $\mathbb{R}$ . Let  $a > 0$ . Prove that  $\inf(aS) = a \inf S$ .

Hint: Make the needed adjustments to the proof in class of Thm 1.

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