

Q3: Let A be a bounded set. Since $A \subset \overline{A}$, we have that $J^*(A) \leq J^*(\overline{A})$ by A6Q4. Similarly by A6Q4 it is immaterial whether we cover our desired set with open or closed rectangles. Hence if we cover A with closed rectangles $\{I_k\}$, we will have that $\{I_k\}$ covers A and \overline{A} . Since this is true for any closed cover we will have that $J^*(\overline{A}) \leq J^*(A)$. Hence we conclude that $J^*(A) = J^*(\overline{A})$. Furthermore, since \overline{A} is compact, we have that by A6Q4 $J^*(\overline{A}) = m^*(\overline{A})$.