Q4: Without loss of generality, we can assume that E is compact by Folland Theorem 2.40. We define

$$r_1 = \sup\{r : B_r(x) \subset E, \text{ for some } x\},$$

and take $B_{r_1}(x_1)$ to be the corresponding ball. We inductively define $B_{r_i}(x_i)$ to be the ball disjoint from all $B_{r_j}(x_j)$ for $j < i$ and r_i satisfying

$$r_j = \sup\{r : B_r(x) \subset (E \setminus \bigcup_{i=1}^{j-1} B_{r_i}(x_i)) \text{ for some } x\}$$

We get a collection of balls $\{B_{r_i}(x_i)\}$ all contained in E. Since $m(E) < \infty$, we know that

$$m(\bigcup_{i=1}^{\infty} B_{r_i}(x_i)) = \sum_{i=1}^{\infty} m(B_{r_i}(x_i)) \leq m(E) < \infty$$

Hence the sum $\sum_{i=1}^{\infty} m(B_{r_i}(x_i))$ converges. Now given $\varepsilon > 0$, we can take N sufficiently large so that

$$\sum_{i=N+1}^{\infty} m(B_{r_i}(x_i)) < \varepsilon\,.$$

We now claim that

$$E \setminus \bigcup_{i=1}^{n} B_{r_i}(x_i) \subset \bigcup_{i=N+1}^{\infty} B_{cr_i}(x_i)$$

for some sufficiently large c. Let $x \in E \setminus \bigcup_{i=1}^{n} B_{r_i}(x_i)$. There must be some $\delta > 0$ such that $B_\delta(x)$ belongs to our cover $\mathcal{C}$. If we take $c = \sup\{k : B_{kr_i}(x_i) \supset B_\delta(x) \text{ for all } x \in E \setminus \bigcup_{i=1}^{n} B_{r_i}(x_i)\}$, this set is nonempty since we can take some $x \in B_{r_{i+1}}(x_{i+1})$, and is bounded above since E is compact. We will have that

$$m(E \setminus \bigcup_{i=1}^{n} B_{r_i}(x_i)) \leq m(\bigcup_{i=N+1}^{\infty})B_{cr_i}(x_i) = c^n m(\bigcup_{i=N+1}^{\infty} B_{r_i}(x_i)) < c^n\,\varepsilon$$

As desired.