A point x of a measurable set $A \subset \mathbb{R}$ is called a density point if

$$\lim_{h \to 0} \frac{\ell(A \cap [x-h, x+h])}{2h} = 1$$

where $\ell(B)$ denotes the Lebesgue measure of B. Prove that if A is a set of positive, finite Lebesgue measure, then almost every point of A is its density point.