[31]. Which of the following is true for the function

$$\text{given by} \qquad f(x) = \begin{cases} 2x - 1 & \text{if} \quad x < -1 \\ x^2 + 1 & \text{if} \quad -1 \leq x \leq 1 \\ x + 1 & \text{if} \quad x > 1 \end{cases}$$

(a) f is continuous everywhere

(b) f is continuous everywhere except at $x = -1$ and $x = 1$

(c) f is continuous everywhere except at $x = -1$

(d) f is continuous everywhere except at $x = 1$

(e) None of the above

[32]. Which of the following is true for the function $f(x) = |x - 1|$?

(a) f is differentiable at $x = 1$ and $x = 2$.

(b) f is differentiable at $x = 1$, but not at $x = 2$.

(c) f is differentiable at $x = 2$, but not at $x = 1$.

(d) f is not differentiable at either $x = 1$ or $x = 2$.

(e) None of the above.

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Answers

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