

Check your understanding

34. Let $f : \mathbb{R}^2 \rightarrow \mathbb{R}$ be a differentiable function. Let S denote the set of critical points of f . Which of the following are possible?
- (a) $S = \mathbb{R}^2$.
 - (b) S is the union of the x and y axes.
 - (c) S is the set of all points whose coordinates are integers.
 - (d) All of the above.

Answer: (d).