

Quiz 3

Nov 09, 2011

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1. Give an example of $y = f(x)$ that has a vertical asymptote and a oblique asymptote.
2. Find the minimal distance from $(0, 3/2)$ to the curve $\{(x, y) \mid y = x^2\}$.
3. State Mean Value Theorem and Rolle's Theorem, then prove that they are equivalent to each other.
4. Evaluate $\lim_{n \rightarrow \infty} \sum_{k=n}^{2n} \frac{1}{n} \cos\left(\frac{2k}{n}\right)$.
5. Evaluate $\frac{d}{dx} \int_{x^2}^x \sin(t^2) dt$.

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