

Math 131 - March 21, 2016
Solutions

Warm-up Problems

1. Draw a picture representing the Mean Value Theorem.

Lecture Problems

2. Let $f(x) = x^3$ on $[0, 1]$. Find the point c guaranteed by the MVT.
Solution: $x = 1/\sqrt{3}$
3. Let $f(x) = x^3$ on $[-1, 1]$. Find the point c guaranteed by the MVT.
Solution: $x = 1/\sqrt{3}$ or $x = -1/\sqrt{3}$
4. Let $f(x) = |x|$ on $[0, 1]$. Find the point c guaranteed by the MVT.
Solution: x can be any point in $(0, 1)$
5. Let $f(x) = |x|$ on $[-1, 1]$. Find the point c guaranteed by the MVT.
Solution: f does not satisfy the hypothesis of the MVT.