1. (10 pts.) State the Mean Value Theorem.

- 2. This problem concerns the function $f(x) = 2\ln(x) + 3$.
 - (a) (6 pts.) Find the linear approximation for f(x) at x = 1. Put your answer in the form L(x) = mx + b.

(b) (4 pts.) Use your answer from part (a) to find the approximate value of f(1.25).

1. (10 pts.) State the Mean Value Theorem.

- 2. This problem concerns the function $f(x) = 7 + e^{2x-4}$.
 - (a) (6 pts.) Find the linear approximation for f(x) at x = 2. Put your answer in the form L(x) = mx + b.

(b) (4 pts.) Use your answer from part (a) to find the approximate value of f(2.25).