Name: _____

Quiz 22

MATH 200
November 16, 2023

1. (6 points) $\displaystyle\int \frac{4x^2 - 9}{2x + 3}\, dx =$

2. (7 points) At the point $\big(x, f(x)\big)$, the tangent to the graph of a function $y = f(x)$ has slope $m = 1 + \dfrac{1}{x^2}$. Also, the graph of $f(x)$ passes though the point $(3, 7)$. Find $f(x)$.

3. (7 points) Given the velocity function, $v(t) = 2\sin(t) + 5t$ of an object moving along a line, find the position function with the initial condition $s(0) = b$. Your final answer should be in terms of b.

Name: _____

Quiz 22

MATH 200
November 16, 2023

1. (6 points) $\displaystyle\int \frac{9x^2 - 16}{3x + 4}\, dx =$

2. (7 points) At the point $\big(x, f(x)\big)$, the tangent to the graph of a function $y = f(x)$ has slope $m = x + \dfrac{1}{x}$. Also, the graph of $f(x)$ passes though the point $(-e, 3)$. Find $f(x)$.

3. (7 points) Given the velocity function, $v(t) = e^t + 4$ of an object moving along a line, find the position function with the initial condition $s(0) = b$. Your final answer should be in terms of b.