Name: _____

Quiz 12 ♡

MATH 200
October 11, 2021

1. Find the derivative: $y = \cos(\pi x) \ln |5x|$

2. Find the derivative: $y = \sin^{-1}\left(x^5 + 1\right)$

3. Find the derivative: $y = \left(1 + \tan^{-1}(x)\right)^5$

4. A rocket, moving straight up after launch, has a height of $s(t) = t^2 - 8t + 91$ meters at time t (seconds). Find the rocket's velocity when it is 100 meters high. (Assume $t \geq 0$.)

Name: _____ Quiz 12 ♣ MATH 200
October 11, 2021

1. Find the derivative: $y = e^{-x} \ln|3x|$

2. Find the derivative: $y = \sin^{-1}\left(\ln|x|\right)$

3. Find the derivative: $y = \ln\left|\sin^{-1}(x)\right|$

4. A rocket, moving straight up after launch, has a height of $s(t) = 5t^3 - 10t$ meters at time t (seconds). Find the rocket's velocity when its acceleration is 300 meters per second per second.

Name: _____

Quiz 12 ♢

MATH 200
October 11, 2021

1. Find the derivative: $y = \sec^{-1}(3x)$

2. Find the derivative: $y = 3x \tan^{-1}(x)$

3. Find the derivative: $y = \ln\left|\sin^{-1}(x)\right|$

4. A rocket, moving straight up after launch, has a height of $s(t) = t^2 - 6t + 100$ meters at time t (seconds). Find the rocket's height when its velocity is 14 meters per second.

Name: _____

Quiz 12 ♠

MATH 200
October 11, 2021

1. Find the derivative: $y = \sin^{-1}\Big(7\ln(x)\Big)$

2. Find the derivative: $y = \ln\Big(\tan^{-1}(x)\Big)$

3. Find the derivative: $y = \Big(x + \sin^{-1}(x)\Big)^8$

4. A rocket, moving straight up after launch, has a height of $s(t) = 5t^3 + 10t$ meters at time t (seconds). Find the rocket's height when its acceleration is 60 meters per second per second.