

MATH 111-007 QUIZ 7

OCTOBER, 25TH, 2021

Problem 1. Find the linearisation of $f(x) = e^{-\frac{x^2}{2}}$ at $x = 0$.

Problem 2. Compute dy where $y = x^3$ and use differentials to estimate $(2.01)^3$.

Problem. (Bonus) Use differentials **or** linearisation to estimate $\sin(1)$. Hint: which (convenient) angle has radian readings close to 1? Leave the expression of your estimate in terms of π .