

NORTHWEST FLORIDA STATE
COLLEGE

Department of Mathematics

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1. Introduction

Begin Quiz Using the discriminant, $b^2 - 4ac$, respond to each of the following questions.

2. What T_E

Solutions to Exercises

Exercise 1. We evaluate by integration by parts:

$$\begin{aligned} \int x^2 e^{2x} dx &= \frac{1}{2} \int x^2 e^{2x} \cdot 2 dx & u = x^2, dv = e^{2x} dx \\ &= \frac{1}{2} x^2 e^{2x} - \int x e^{2x} dx \\ &= \frac{1}{2} x^2 e^{2x} - \left(\frac{1}{2} x e^{2x} - \int \frac{1}{2} e^{2x} dx \right) \\ &= \frac{1}{2} x^2 e^{2x} - \frac{1}{2} x e^{2x} + \frac{1}{4} e^{2x} + C \end{aligned}$$

Problem 2.1. The answer is yes. The definition states that F is an antiderivative of f if $F'(x) = f(x)$.

Problem 2.2. The answer is yes. The definition states that F is an antiderivative of f if $F'(x) = f(x)$.

Exercise 2(b) Acceleration is the rate of change of velocity with respect to time. Thus,

$$\overline{dt}$$

Exercise 3(a) $i^2 = -1$

Exercise 3(b)

Solution to Quiz:

In 1492,

Solution to Quiz:

Solution to Quiz: