

Business Calculus I (Math 221) Quiz

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Justify answers and show all work for full credit.

NAME: _____

Problem 1. Evaluate

(a) $\int_1^4 5x^{3/2} dx$

(b) $\int_0^1 \frac{x^3}{3x^4 + 5} dx$

(c) $\int_{-1}^2 (7x + 3)^{-2} dx$

Problem 2. Find the area enclosed by the graphs $y = x^2$ and $y = \sqrt{x}$.

Problem 3. An income stream has annual flow rate $f(t) = 4000 e^{0.05t}$ for 10 years.

(a) Find the total income over the next 10 years.

(b) Find the present value using an interest rate of 3% (APR).