King Fahd University of Petroleum and Minerals
Mathematics

CODE01 **CODE01**

MATH201: Calculus II
Final Exam
Term 261
Monday, December 8, 2026
Net Time Allowed: 120 minutes

Name: _____

ID: _____ Sec: _____.

Check that this exam has 3 questions.

Important Instructions:

1. Show all your work; unjustified answers receive no credit.
2. No calculators, phones, or notes are permitted.
3. Write your final answers in the boxes provided where shown.
4. You have 120 minutes to complete this exam.

1. Evaluate the definite integral

$$\int_0^{\pi/2} \sin(x)\cos(x)\,dx.$$

2. Find the radius of convergence of the power series

$$\sum_{n=1}^{\infty} \frac{(x-2)^n}{n \cdot 3^n}.$$

3. Determine whether the improper integral

$$\int_1^\infty \frac{1}{x^2}\,dx$$

converges, and if so, find its value.