Name: $\qquad$ PID: $\qquad$

- Print your NAME on every page and write your PID in the space provided above.
- Show all of your work in the spaces provided. No credit will be given for unsupported answers, even if correct.
- No calculators, tablets, phones, or other electronic devices are allowed during this exam. You may use one page of handwritten notes, but no books or other assistance.
(1 pt) 0. Follow the instructions on this exam and any additional instructions given during the exam.

Evaluate the integrals.
$(5 \mathrm{pt})$ 1. $\int \frac{1}{x \ln (5 x)} d x$
$(6 \mathrm{pt}) \quad$ 2. $\int \arctan (x) d x$
$(6 \mathrm{pt}) \quad 3 . \int \frac{x}{\left(9-x^{2}\right)^{5 / 2}} d x$
$(6 \mathrm{pt})$ 4. $\int \frac{2 x-1}{x^{2}\left(x^{2}+1\right)} d x$
(6 pt) 5. $\int_{3}^{\infty} e^{-2 x} d x$

