MATH 202, Fall 2023 **Name:** _____
Exam 4 Practice **Row and Seat**: _____

"I'm killing time while I wait for life to shower me with meaning and happiness."
CALVIN (BILL WATERSON)

1. Find the numerical value of each definite, indefinite integral, or improper definite integral.
   (a) $\int x^3 \exp(-x^2)\,\mathrm{d}x$
   (b) $\int x\sqrt{5^2+x^2}\,\mathrm{d}x$
   (c) $\int x\ln(28x)\,\mathrm{d}x$
   (d) $\int_0^{2\pi} \cos(\sqrt{2}x)^2\,\mathrm{d}x$
   (e) $\int_0^{\pi} \cos(6x)^2\,\mathrm{d}x$
   (f) $\int_0^{\pi} \cos(x)^2\sin(x)^3\,\mathrm{d}x$
   (g) $\int_0^1 \frac{1}{x}\,\mathrm{d}x$
   (h) $\int_0^1 \frac{1}{\sqrt{x}}\,\mathrm{d}x$
   (i) $\int_1^{\infty} x^{-\frac{1}{3}}\,\mathrm{d}x$
   (j) $\int_0^{\infty} \frac{1}{5^2+x^2}\,\mathrm{d}x$
   (k) $\int_0^{\infty} \frac{1}{\sqrt{5^2+x^2}}\,\mathrm{d}x$