Name: _____

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) $\int x^3 \exp(-x^2)\,dx$

   (b) $\int x\sqrt{5^2 + x^2}\,dx$

   (c) $\int x\ln(28x)\,dx$

   (d) $\int_0^{2\pi} \cos(\sqrt{2}x)^2\,dx$

   (e) $\int_0^{\pi} \cos(6x)^2\,dx$

   (f) $\int_0^{\pi} \cos(x)^2 \sin(x)^3\,dx$

   (g) $\int_0^1 \frac{1}{x}\,dx$

   (h) $\int_0^1 \frac{1}{\sqrt{x}}\,dx$

   (i) $\int_1^{\infty} x^{-\frac{1}{3}}\,dx$

   (j) $\int_0^{\infty} \frac{1}{5^2 + x^2}\,dx$

   (k) $\int_0^{\infty} \frac{1}{\sqrt{5^2 + x^2}}\,dx$