Name:_____

Worksheet 7/9 - some derivatives and integrals to have at your fingertips

If you had trouble with question 7 or question 9, do these problems.

1. Find the derivatives.

   (a) $f(x) = 1/x$

   (b) $f(x) = \sqrt{x}$

   (c) $f(x) = x^r$

   (d) $f(x) = \ln x$

   (e) $f(x) = \ln(g(x))$

   (f) $f(x) = e^x$

   (g) $f(x) = 2^x$

   (h) $f(x) = \sin x$

   (i) $f(x) = \cos x$

   (j) $f(x) = \tan x$

   (k) $f(x) = \sec x$

   (l) $f(x) = \arctan x$

2. Find the integrals.

   (a) $\int 1/x \, dx$

   (b) $\int \sqrt{x} \, dx$

   (c) $\int x^r \, dx$, for $r \neq -1$

   (d) $\int \sin x \, dx$

   (e) $\int \cos x \, dx$

   (f) $\int \sec x \tan x \, dx$

   (g) $\int \frac{1}{1 + x^2} \, dx$

   (h) $\int \frac{f'(x)}{f(x)} \, dx$