Name: Section: 1 2

1. Find the values of $\cos^{-1}(\frac{1}{\sqrt{2}})$ and $\tan^{-1}(-\sqrt{3})$.

2. (a) Find $\displaystyle\int \frac{2x}{1+x^4}\,dx$. *Hint*: let $u = x^2$.

(b) Evaluate $\displaystyle\int \frac{1}{\sqrt{9-4x^2}}\,dx$. *Hint:* factor 3 out of the denominator and let $u = \frac{2}{3}x$.

3. Use integration by parts to evaluate the following integrals.

   (a) $\int xe^{2x}dx$

   (b) $\int x\ln(4x)dx$