Final Exam Practice 4 (due April 24)

1. Use an appropriate trig substitution to evaluate

$$\int \frac{1}{\sqrt{1-4x^2}}\,dx$$

2. Set up the integral to find the mass of a pyramid with a square base of sidelength 10 ft. and a height of 20 ft. Assume the density of the pyramid varies with h (the vertical distance from the base) according to $\delta(h) = 5h$ lb/ft^3.