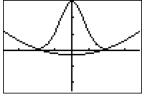Review 7.1,7.2,7.4 (Calculator Okay)

1. (Calculator) The velocity function of a moving particle is $v(t) = 3\cos(2t)$ in/hr for $0 \le t \le \pi$ hours.

    a. Find the total distance traveled by the particle during the time interval $0 \le t \le \pi$ hours.

    b. Given $x(0) = 5$, find x(3).

2. Use your calculator to find the area between the curves given below
$$f(x) = 3^{1-x^2} \quad \text{and} \quad g(x) = \frac{x^2 - 3}{10}$$

3. Use your calculator to help you find the length of the arch of the parabola $y = 9 - x^2$ that lies above the x-axis

4. Use your calculator to find the perimeter of the bell shape in problem number 2.

$$f(x) = 3^{1-x^2} \quad \text{and} \quad g(x) = \frac{x^2 - 3}{10}$$