(8.1) Set up integrals for the volume of each of the solids below. The base of each solid is the region bounded by $y = x - 1$ and $y = x^2 - 1$. The cross sections perpendicular to teh x-axis are describe below

(a) Rectangles of height 2

(b) Squares

(c) Semicircles

(8.2) First we need to find the area function, $A(x)$ of a cross section of the solid. We know that the height of the cross sectional shape is 2, therefore

$$A(x) = 2 \cdot S$$

where S is the length of the base