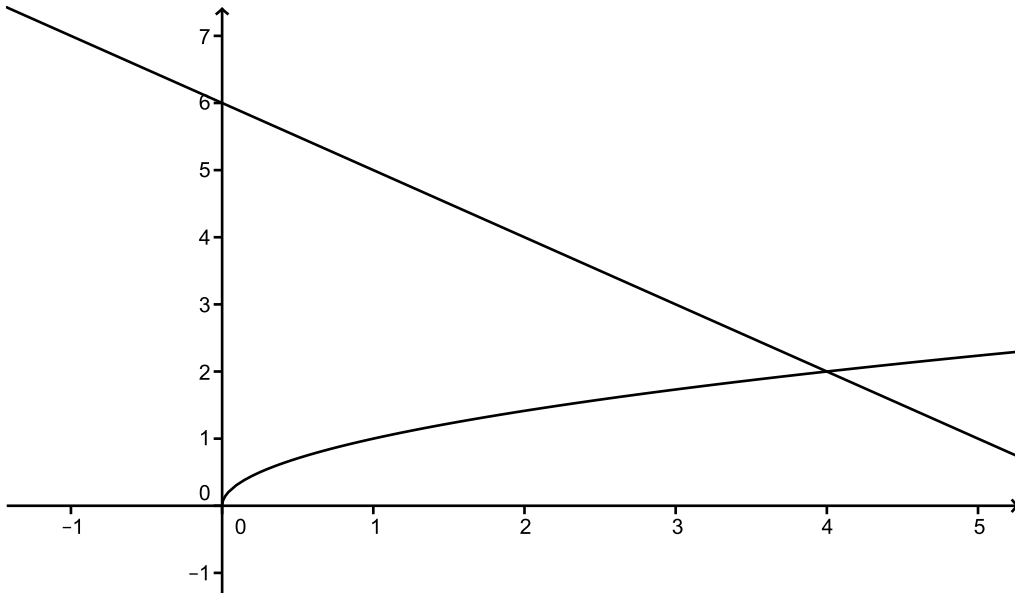


## Math 31 – Workshop #4

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1. Find the area of the region that is bounded by the graphs of  $y = 6 - x$ ,  $y = \sqrt{x}$ , and the  $y$ -axis.



2. Find the area of the region bounded by the graphs of  $y = 9$  and  $y = x^2$ .
3. Compute the following integrals.

(a)  $\int \frac{x}{\sqrt{x+1}} dx$

(b)  $\int_4^9 \frac{\sqrt{x}}{(\sqrt{x}-1)^2} dx$

4. Consider the region bounded by the graphs of  $y = \sqrt{x}$  and  $y = \frac{1}{3}x$ .
- (a) Set up a  $dx$  integral that computes the area of this region.
- (b) Set up a  $dy$  integral that computes the area of this region.