

## Practice on Area and Arc Length

A) Find the area of the region bounded by the curves  $y = 1 - 2x$ ,  $y = \sqrt{x}$ ,  $y = -x$ .

B) Find the area of the following regions bounded by the given curves by two methods: a) integrating with respect to  $x$ , and b) integrating with respect to  $y$ .

i)  $4x + y^2 = 0$ ,  $y = 2x + 4$

ii)  $x + 1 = 2(y - 2)^2$   $x + 6y = 7$

C) Find the length of the curve.

i)  $y^2 = x^3$  between  $(1,1)$  and  $(4,8)$ .

ii)  $y = 6\sqrt{x}$ ,  $1 \leq x \leq 4$ .

iii)  $12xy = 4y^4 + 3$  between  $(\frac{17}{2}, 1)$  and  $(\frac{67}{24}, 2)$