

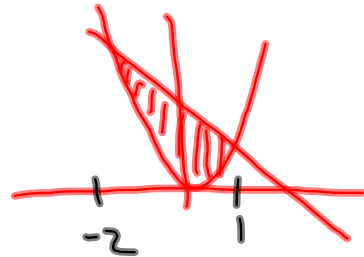
$$1) \quad y = -x + 2 \quad y = x^2$$

$$x^2 = -x + 2$$

$$x^2 + x - 2 = 0$$

$$(x-1)(x+2) = 0$$

$$x = 1, -2$$



$$\int_{-2}^1 [(-x+2) - x^2] dx = \int_{-2}^1 (-x^2 - x + 2) dx = \frac{9}{2}$$

$$2) \quad y = \sqrt{\cos x + x}$$

$$\int_0^{\pi} \pi (\sqrt{\cos x + x})^2 dx$$

$$\pi \int_0^{\pi} (\cos x + x) dx$$

$$\pi \left(\sin x + \frac{x^2}{2} \right) \Big|_0^{\pi} = \pi \left(\frac{\pi^2}{2} - 0 \right) = \frac{\pi^3}{2}$$

