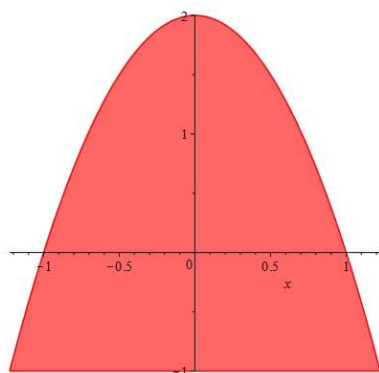

1.1 Consideramos la región plana Ω limitada por la parábola $y = 2 - 2x^2$ y la recta horizontal $y = -1$.

- (a) Representa gráficamente Ω .
(b) Calcula el área de Ω .

SOLUCIÓN:

(a) $2 - 2x^2 = -1 \Rightarrow 2x^2 = 3 \Rightarrow x = \pm\sqrt{\frac{3}{2}} \approx \pm 1.22$



(b) $A = \int_{-\sqrt{\frac{3}{2}}}^{\sqrt{\frac{3}{2}}} [(2 - 2x^2) - (-1)] dx \Rightarrow A = \int_{-\sqrt{\frac{3}{2}}}^{\sqrt{\frac{3}{2}}} [3 - 2x^2] dx \Rightarrow A = \left[3x - \frac{2x^3}{3} \right]_{-\sqrt{\frac{3}{2}}}^{\sqrt{\frac{3}{2}}} \Rightarrow A = 2\sqrt{6} \approx 4.9$
