

Area Between Curves- HW Problems

Find the area of the region bounded by the functions given. Start by sketching the region.

1. $y = 4 - x^2, \quad y = x^2 - 4$

2. $y = -x^2 + 5x + 1, \quad y = x + 1.$

3. $y = x, \quad y = 4 - x, \quad y = 0.$

4. $y = \sqrt{4x} + 2, \quad y = x + 2$

5. $y = (x - 1)^2, \quad y = (x - 5)^2, \quad x = 1, \quad x = 5$

6. $y = \sin(x), \quad y = \cos(x), \quad y = 0, \quad 0 \leq x \leq \frac{\pi}{2}$

7. $x = y^2, \quad x = y + 2$

8. $y = x - 1, \quad y^2 = 2x + 6$

9. $x = 3y^2, \quad x = -y^2 + 12y - 5$

10. $x = 12 - y^2, \quad x = y^2 - 6.$