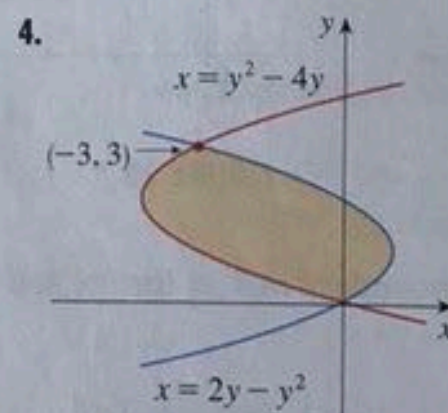
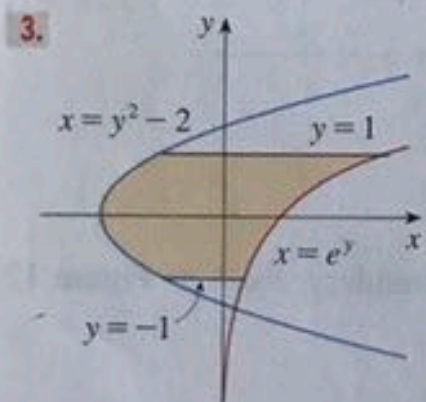
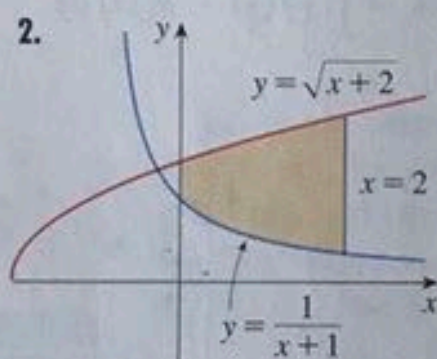
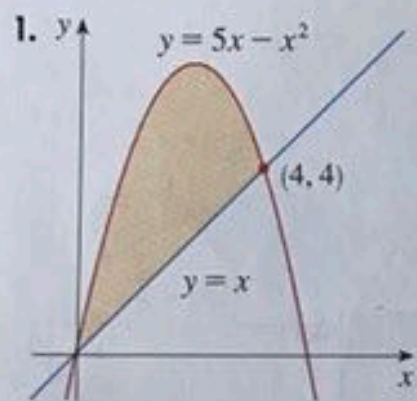


6.1 Exercises

1-4 ■ Find the area of the shaded region.



5-26 ■ Sketch the region enclosed by the given curves. Decide whether to integrate with respect to x or y . Draw a typical approximating rectangle and label its height and width. Then find the area of the region.

5. $y = x + 1$, $y = 9 - x^2$, $x = -1$, $x = 2$

6. $y = \sin x$, $y = e^x$, $x = 0$, $x = \pi/2$

7. $y = x$, $y = x^2$

8. $y = x^2$, $y = x^4$

9. $y = 1/x$, $y = 1/x^2$, $x = 2$

10. $y = 1 + \sqrt{x}$, $y = (3 + x)/3$

11. $y = x^2$, $y^2 = x$

12. $y = x$, $y = \sqrt[3]{x}$

13. $y = 12 - x^2$, $y = x^2 - 6$

14. $y = x^3 - x$, $y = 3x$

15. $y = \sqrt{x}$, $y = \frac{1}{2}x$, $x = 9$

16. $y = 8 - x^2$, $y = x^2$, $x = -3$, $x = 3$

17. $x = 2y^2$, $x + y = 1$

18. $4x + y^2 = 12$, $x = y$

19. $x = 1 - y^2$, $x = y^2 - 1$

20. $y = \sin(\pi x/2)$, $y = x$

21. $y = \cos x$, $y = \sin 2x$, $x = 0$, $x = \pi/2$

22. $y = \sin x$, $y = \sin 2x$, $x = 0$, $x = \pi/2$

23. $y = \cos x$, $y = 1 - 2x/\pi$

24. $y = |x|$, $y = x^2 - 2$

25. $y = x^2$, $y = 2/(x^2 + 1)$

26. $y = \sin \pi x$, $y = x^2 - x$, $x = 2$

27-28 ■ Use calculus to find the area of the triangle with vertices.

27. $(0, 0)$, $(2, 1)$, $(-1, 6)$

28. $(0, 5)$, $(2, -2)$