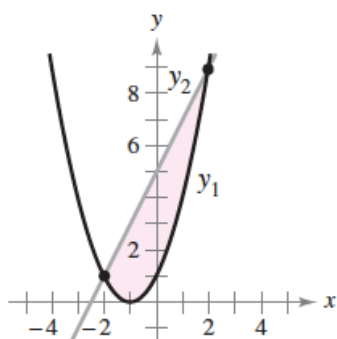


Area Between Curves

Find the shaded area

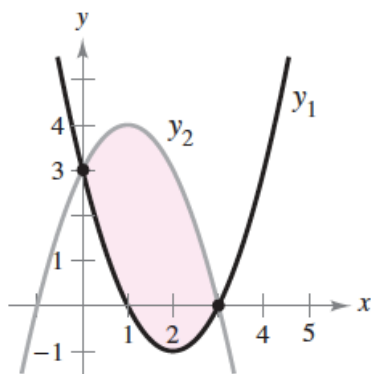
2. $y_1 = x^2 + 2x + 1$

$y_2 = 2x + 5$



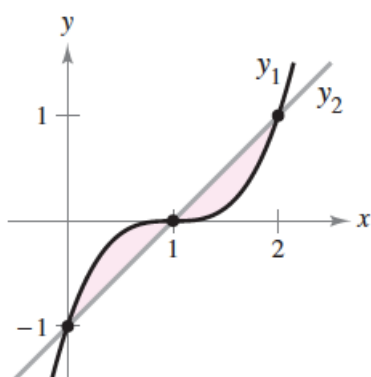
3. $y_1 = x^2 - 4x + 3$

$y_2 = -x^2 + 2x + 3$



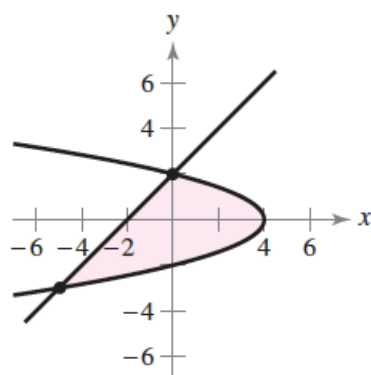
6. $y_1 = (x - 1)^3$

$y_2 = x - 1$



17. $x = 4 - y^2$

$x = y - 2$

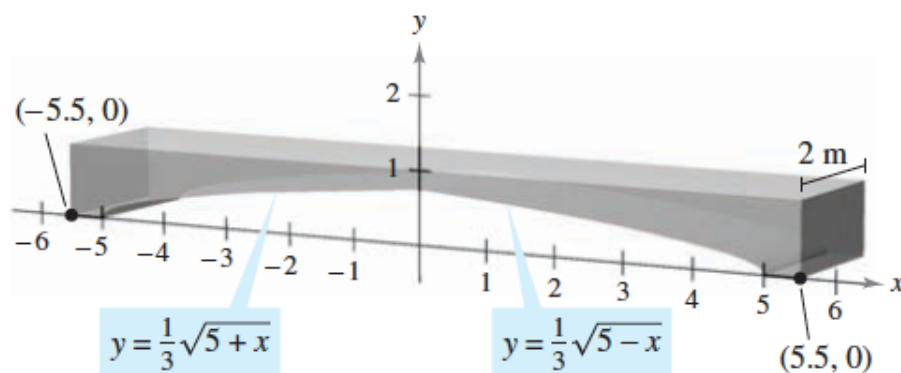


Sketch the region bounded by the graphs of the functions and find the area.

25. $f(x) = x^2 + 2x$, $g(x) = x + 2$

30. $f(x) = \sqrt[3]{x - 1}$, $g(x) = x - 1$

- 97. Building Design** Concrete sections for a new building have the dimensions (in meters) and shape shown in the figure.



- (a) Find the area of the face of the section superimposed on the rectangular coordinate system.
- (b) Find the volume of concrete in one of the sections by multiplying the area in part (a) by 2 meters.
- (c) One cubic meter of concrete weighs 5000 pounds. Find the weight of the section.

- 105.** The horizontal line $y = c$ intersects the curve $y = 2x - 3x^3$ in the first quadrant as shown in the figure. Find c so that the areas of the two shaded regions are equal.

