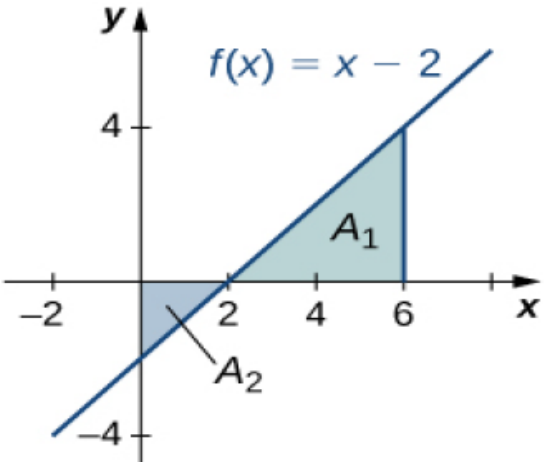
Area by using curves lines

Example#1 Find the total area between $f(x) = x - 2$ and the x-axis over the interval [0, 6].

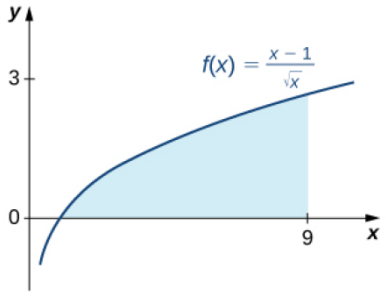


Answer: A=10 sq. units

Example#2 Find the total area between the function $f(x) = 2x$ and the x-axis over the interval [−3, 3].

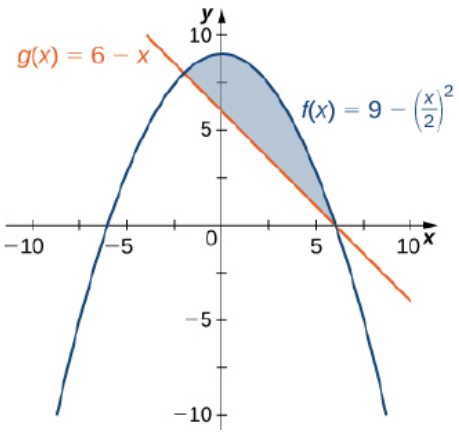
Example#3 Evaluate the following integral using the Fundamental Theorem of Calculus.

$$\int_1^9 \frac{x-1}{\sqrt{x}} dx.$$



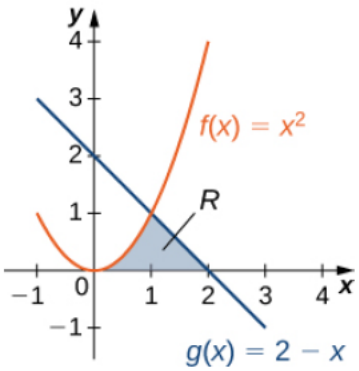
Answer 40/3 sq. units

Example#4 If R is the region bounded above by the graph of the function $f(x) = 9 - (x/2)^2$ and below by the graph of the function $g(x) = 6 - x$, find the area of the region R.



Answers: 64/3 sq. units

Example#5 Find the area between the curve and a straight line as shown in the figure.



Answers: 5/6 sq. units.

Example#6 Consider the region depicted in the following figure. Find the area of *R*.