

Areas

1. Find the area of the region bounded by the curves: $y = x^2 - 2x$, $y = x + 4$
2. Find the area of the region bounded by the curves: $y = \cos x$, $y = \sin 2x$, $x = 0$, $x = \pi/2$
3. Find the values of c such that the area of the region bounded by the parabolas $y = x^2 - c^2$ and $y = c^2 - x^2$ is 576.
4. Find the area of the region bounded by the curves: $x = 2y^2$, $x = 4 + y^2$
5. Use calculus to find the area of the triangle with the given vertices $(0,0)$, $(2,1)$, $(-1,6)$
6. Find the area of the region bounded by the parabola $y = x^2$, the tangent line to this parabola at $(6, 36)$, and the x axis.
7. Find the number b such that the line $y = b$ divides the region bounded by the curves $y = x^2$ and $y = 4$ into two regions with equal area.
8. Find the number b such that the line $y = b$ divides the region bounded by the curves $y = 5x^2$ and $y = 7$ into two regions with equal area.
9. Find (approximately) the area of the region bounded by the curves: $y = 6 + x^2$, $y = 6 + e^{-x^2}$
10. Find the positive value of c such that the area of the region bounded by the parabolas $y = x^2 - c^2$ and $y = c^2 - x^2$ is 576.