

IB Calculus Problem 007

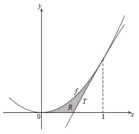


figure shows part of the graph of the function $f(x) = 2x^2$.

not to scale.

The line T is the tangent to the graph of f at $x = 1$.

- A. Show that the equation of T is $y = 4x - 2$.
- B. Find the x-intercept of T .
- C. The shaded region R is bounded by the graph of f , the line T , and the x-axis.
 - i. Write down an expression for the area of R .
 - ii Find the area of R .