

FROM THE BOOK: p 376/5, 33, 34; p 387/2, 3

Find the area function, $A(x) = \int_a^x f(t)dt$, for each of the following functions using the given value of a , either geometrically or using the limit definition of area. Do NOT use the Fundamental Theorem of Calculus!

1. $f(x) = x+1$, $a = 2$
2. $f(x) = 2x-1$, $a = 0$
3. $f(x) = x^2 + 2$, $a = 1$
4. $f(x) = 3x^2$, $a = a$ (Your area function will depend on both a and x .)
5. What is the relationship between $A(x)$ and $f(x)$ in the problems above?