5.4 cont.

Construct a function of the form $y = \int_a^x f(t)\,dt + C$ that satisfies the given conditions.

dy/dx = tan x and f(3)=5.

$$y = \int_a^x f(t)\,dt + C$$

$$y = \int_3^x \tan t\,dt + 5$$

Construct a function of the form $y = \int_a^x f(t)\,dt + C$ that satisfies the given conditions.

$dy/dx = 2e^x \sec^2 x$ and $y=0$ when $x=3$.

$$y = \int_3^x 2e^t \sec^2 t\,dt + 0$$

$$\frac{dy}{dx} = \ln(x^2+2x)$$

$f(5)=10$

$$y = \int_5^x \ln(t^2+2t)\,dt + 10$$

Assignment:
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