

Replacement Problems 138–141

$$138-19 \quad \int \frac{x}{x^2 + 1} dx$$

$$138-20 \quad \int \frac{x+1}{x^2 + 1} dx$$

139–19 Use Euler’s method, with 5 iterations, to approximate the value of y when $x = 2$ given the initial condition $y = 1$ when $x = 1$, and the differential equation $\frac{dy}{dx} = xy$.

$$140-13 \quad \int \frac{6x}{4x^2 + 9} dx$$

$$140-15 \quad \int \frac{4x^2 + 9}{6x} dx$$

141–20 Use Euler’s method, with 5 iterations, to approximate the value of y when $x = 2$ given the initial condition $y = 1$ when $x = 1$, and the differential equation $\frac{dy}{dx} = x + y$.