Due to the fact that $\ln f \propto \ln t$ seems to hold true for the first few dozen data points, eq. 1 is then assumed to describe the behavior and can thus be linearized as eq. 2.

Areas beneath the fitted curved can be computed from eqs. 3 and 4. From the data, results can be integrated using the trapezoidal rule (eq. 5).

$$f\left(t\right) = At^{B} \tag{1}$$

$$\ln f = \ln A + B \ln t \tag{2}$$

$$F\left(t\right) = \int f\left(t\right) dt = \int At^{B} dt = \frac{A}{B+1} t^{B+1} + constant \tag{3}$$

$$Area\left(t_1, t_2\right) = \int_{t_1}^{t_2} f\left(t\right) dt = F\left(t_2\right) - F\left(t_1\right) = \frac{A}{B+1}\left[t_2^{B+1} - t_1^{B+1}\right] \tag{4}$$

$$\int_{t_1}^{t_2} f\left(t\right) dt \approx \left(t_2 - t_1\right)\left[\frac{f\left(t_1\right) + f\left(t_2\right)}{2}\right] \tag{5}$$

Results computed using Python, graphs and values attached.