

Compute the following integrals.

$$1. \int \frac{dy}{ay + b} =$$

$$2. \int \frac{dx}{x^2 + a^2} =$$

$$3. \int \frac{dz}{z(a - bz)} =$$

$$4. \int x^n e^{ax} dx =$$

$$5. \int e^{at} \cos bt dt =$$