

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