Some integrals to recall

Before section 3.2 and Chapter 4, it is timely to review some antiderivatives.

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

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

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

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

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