1. Evaluate the following integrals.

   (a) $\displaystyle\int_0^3 \frac{x\,dx}{\sqrt{9-x^2}}$

   (b) $\displaystyle\int \frac{dx}{\sqrt{1-4x^2}}$

   (c) $\displaystyle\int_0^a \sqrt{a^2-x^2}\,dx$ ($a>0$ is an unspecified constant)

   (d) $\displaystyle\int \frac{dx}{\sqrt{4-(x-1)^2}}$

   (e) $\displaystyle\int_0^2 \frac{dx}{\sqrt{4+x^2}}$

   (f) $\displaystyle\int_0^1 \frac{dx}{\sqrt{4-x^2}}$

   (g) $\displaystyle\int \frac{x\,dx}{\sqrt{4+x^2}}$

   (h) $\displaystyle\int_0^2 \frac{x\,dx}{4+x^2}$

   (i) $\displaystyle\int_0^2 \frac{dx}{4+x^2}$

   (j) $\displaystyle\int \frac{dx}{x\sqrt{16+x^2}}$

   (k) $\displaystyle\int \frac{dx}{x\sqrt{a^2-x^2}}$ ($a>0$ is an unspecified constant)

   (l) $\displaystyle\int \frac{dx}{(9-x^2)^{3/2}}$