Consider \( f(x) = \sqrt{9-x^2} \).

(a) The graph of \( f \) is provided below.

(b) Since \( n = 6 \) then the width of each subinterval is \( \Delta x = \frac{3 - (-3)}{6} = 1 \).

Right Sum

\[
\begin{align*}
= f(-2)\Delta x + f(-1)\Delta x + f(0)\Delta x + f(1)\Delta x + f(2)\Delta x + f(3)\Delta x \\
= \sqrt{5} + \sqrt{8} + 3 + \sqrt{8} + \sqrt{5} + 0 \\
\approx 13.13
\end{align*}
\]

(c) The definite integral representing the area under the graph of \( f \) between \( x = -3 \) and \( x = 3 \) is

\[
\int_{-3}^{3} \sqrt{9-x^2} \, dx.
\]

(d) The definite integral represents the area of the semi-circle centered at the origin with radius \( r = 3 \).

We can compute the exact value of the definite integral using the formula for the area of a circle.

Therefore, \( \int_{-3}^{3} \sqrt{9-x^2} \, dx = \frac{1}{2} \pi (3)^2 = \frac{9}{2} \pi \).