14.

$g'(x) = 5x^2$

INITIAL CONDITION

$g(0) = -2$

$x = 0$ $\quad$ $g(x) = -2$

$g(x) = \int g'(x)$

$= \int (5x^2)\,dx$

$g(x) = \frac{5x^3}{3} + C$

$-2 = \frac{5(0)^3}{3} + C$

$-2 = C$

$g(x) = \frac{5}{3}x^3 - 2$