1. Given the function $d(s) = s^2 + s$, find an equation of the secant line containing $(3, d(3))$ and $(4, d(4))$. Express the equation in slope-intercept form.

$n = -36 + 8s$

$n = 36 - 8s$

$n = -12 + 8s$

$n = -11 + 9s$

Solution

The line passing through the two points has the slope:

$\dfrac{d(4) - d(3)}{4 - 3}$

$= \dfrac{(1(4)^2 + 1(4)) - (1(3)^2 + 1(3))}{1}$

$= \dfrac{20 - 12}{1}$

$= 8$

using one of the points, say $(3, 12)$ and the slope to get the equation of the secant line:

$n - 12 = 8(s - 3)$

The equation in slope-intercep form:

$n = -12 + 8s$