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

$n = -48 + 10y$

$n = 48 - 10y$

$n = -12 + 10y$

$n = -11 + 11y$

Solution

The line passing through the two points has the slope:

$$\frac{c(4)-c(3)}{4-3}$$

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

$$= \frac{28-18}{1}$$

$$= 10$$

using one of the points, say $(3,18)$ and the slope to get the equation of the secant line:

$n-18 = 10(y-3)$

The equation in slope-intercep form:

$n = -12 + 10y$