9. Given the function $h(u)=2u^2+3u$,
find an equation of the secant line containing $(3,h(3))$
and $(6,h(6))$. Express the equation in slope-intercept form.

$j = -90 + 21u$

$j = 90 - 21u$

$j = -36 + 21u$

$j = -35 + \frac{64u}{3}$

Solution

The line passing through the two points has the slope:

$$\frac{h(6)-h(3)}{6-3}$$

$$= \frac{(2(6)^2+3(6))-(2(3)^2+3(3))}{3}$$

$$= \frac{90-27}{3}$$

$$= 21$$

using one of the points, say $(3,27)$ and the slope to get the equation of the secant line:

$j-27 = 21(u-3)$

The equation in slope-intercep form:

$j = -36 + 21u$