

NMMB430 - DÚ 3
Jan Oupický

1

We will proceed by calculating $[2]P$, $[2]P + [2]P = [4]P$ (doubling) and finally $[4]P + P = [5]P$ (addition).

$[2]P$:

$$\begin{aligned}\gamma_1 &= 20, \gamma_2 = 5, \gamma_3 = 8 \\ \implies [2]P &= (20 : 5 : 8)\end{aligned}$$

$[4]P$:

$$\begin{aligned}\gamma_1 &= 18, \gamma_2 = 4, \gamma_3 = 4 \\ \implies [4]P &= (18 : 4 : 4)\end{aligned}$$

$[4]P + P$:

$$\begin{aligned}U &= 0, W = 0, V = 26 \\ \implies [5]P &= (0 : -4 : 4)\end{aligned}$$

Since $4^{-1} = 8$ we get that $[5]P = (0 : -4 : 4) = (0 : -1 : 1)$.