

Tutorial-IV (Mathematical Background)

1. Find the points on elliptic curve $E_{23} (1,1)$
2. Perform the addition on following 2D points

$$P = (3, 10) \quad Q = (9, 7)$$

3. Consider $E_{13} (1, 1)$ and perform the following scalar multiplication and show the resultant point obtained.

- (i) $4 * P$ where $P = (1, 4)$
- (ii) $3 * Q$ where $Q = (8, 1)$