

6.3.4

$$V \times U = -(U \times V)$$

Theorem 6.3.1 = ~~***~~ ~~***~~ ~~***~~

$$U \times V = \begin{bmatrix} i & j & k \\ u_1 & u_2 & u_3 \\ v_1 & v_2 & v_3 \end{bmatrix}$$

$$\textcircled{1} \dots U \times V = i(u_2 v_3 - u_3 v_2) - j(u_3 v_1 - u_1 v_3) + k(u_1 v_2 - u_2 v_1)$$

$$V \times U = \begin{bmatrix} i & j & k \\ v_1 & v_2 & v_3 \\ u_1 & u_2 & u_3 \end{bmatrix}$$

$$\textcircled{2} \dots V \times U = i(v_2 u_3 - v_3 u_2) - j(v_3 u_1 - v_1 u_3) + k(v_1 u_2 - v_2 u_1)$$

So from 1 and 2 we can approve $V \times U = -(U \times V)$