

$$5_{10} \cdot 3_{10} = (b'0100)_{16} (b'0001)_{16}$$

$$b'1001$$

$$b'0011$$

$$\begin{array}{r} 0001001 \\ + 0010010 \\ \hline 00011011 \end{array} \rightarrow 2^1 + 2^2 + 2^3 + 2^4 = \boxed{b'27}$$

$$b. (-5)_{10} \cdot (-b)_6 =$$

$$5_{10} = b'0101_{16} \quad (-5)_{10} = b'1011_{16}$$

$$b_6 = b'000110_{16} \quad (-b)_6 = b'111010_{16}$$

$$(-5)_{10} = b'111011_{16}$$

$$b'111011$$

$$b'111010$$

$$00000000$$

$$00000000$$

$$00000000$$

$$00000000$$

$$00000000$$

$$00000000$$

$$00000000$$

$$00000000$$

$$00000000$$

111111

$$\rightarrow 2^1 + 2^2 + 2^3 + 2^4 = \boxed{b'30}$$