

③

Consider the signal

$$z(t) \triangleq x^I(t) \cos mft - x^Q(t) \sin mft$$

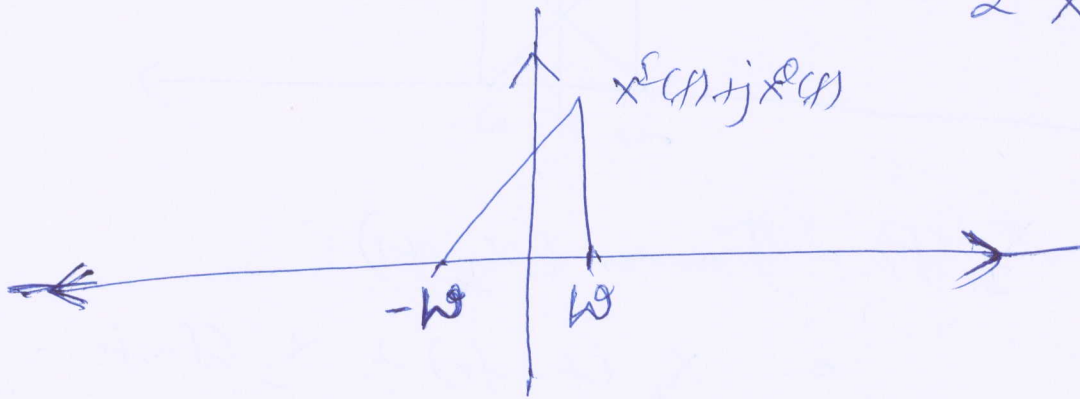
→ ⑤.

$$= \operatorname{Re} \left\{ (x^I(t) + j x^Q(t)) e^{j mft} \right\}$$

What is $Z(f)$?

$$x^I(t) + j x^Q(t) \xrightarrow{\text{Fourier}} X^I(f) + j X^Q(f)$$

$$= 2 X_+(f + f_c)$$



$$\text{Fourier of } \left\{ (x^I(t) + j x^Q(t)) e^{j mft} \right\}$$

