

# Phasor Addition Example #1

- Consider the signal

$$\begin{aligned}x(t) = & 87 \cos(2\pi \cdot 880 \cdot t - \pi/4) \\ & + 12 \operatorname{Re}\{(-3 - j4)e^{j(2\pi \cdot 880 \cdot t + \pi/6)}\} \\ & + 28 \sin(2\pi \cdot 880 \cdot t - \pi/8)\end{aligned}$$

- Find  $X = Ae^{j\theta}$  such that  $x(t) = A \cos(2\pi \cdot 880 \cdot t + \theta)$
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## Phasor Addition Example #2

- Consider the signal

$$\begin{aligned}x(t) &= 30 \cos(2\pi \cdot f_o \cdot t - \pi/2) \\ &\quad + B \cos(2\pi \cdot f_o \cdot t + \phi) \\ &\quad + 60 \sin(2\pi \cdot f_o \cdot t + \pi/4)\end{aligned}$$

- Find  $X_B = B e^{j\phi}$  such that  $x(t) = 50 \cos(2\pi \cdot f_o \cdot t + \pi/4)$
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