

$$31) F_s = 100 \text{ kHz} \quad F_m = 5 \text{ kHz} \quad F_c = 25 \text{ kHz}$$
$$x[n] = x_a(nT) \quad t = nT = \frac{n}{F_s}$$

$$a) x[n] = \left[ .5 \sin\left(\frac{2\pi F_m n}{F_s}\right) + 1 \right] \cos\left(2\pi f_c \frac{n}{F_s}\right)$$

$$x[n] = \left[ .5 \sin\left(\frac{\pi n}{10}\right) + 1 \right] \cos\left(\frac{\pi n}{2}\right)$$