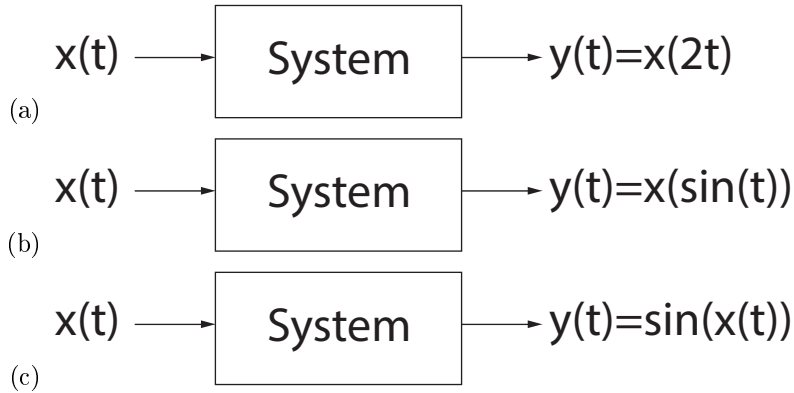


## EE20N Fall 2013 Discussion Questions

1. Plot the following signals

- (a)  $y(t) = \cos(2\pi t)$
- (b)  $y(t) = \cos(2\pi t + \pi)$
- (c)  $y(t) = -2\cos(4\pi t)$
- (d)  $y(t) = 1 + 2\cos(4\pi t - \pi)$

2. Determine whether the following systems are linear



3. Given  $z_1 = e^{i\frac{2}{3}\pi}$  and  $z_2 = \frac{1}{2} - \frac{1}{2}i$ ,

- (a) Plot on the complex plane  $z_1$ ,  $z_2$ ,  $z_1^*$ , and  $z_2^*$
- (b) Determine  $z_1 + z_2$  in polar form as well as Cartesian form. Is polar form easier or Cartesian form easier?
- (c) Determine  $z_1 z_2$  in polar form as well as Cartesian form. Is polar form easier or Cartesian form easier?
- (d) Find the 4th roots of 1.
- (e) Find the 6th roots of  $1 + 2i$ .