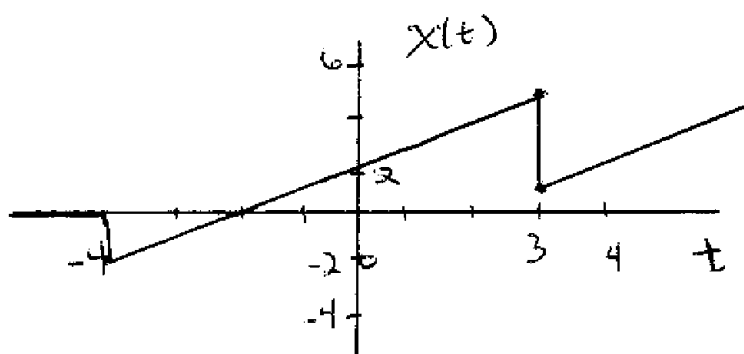
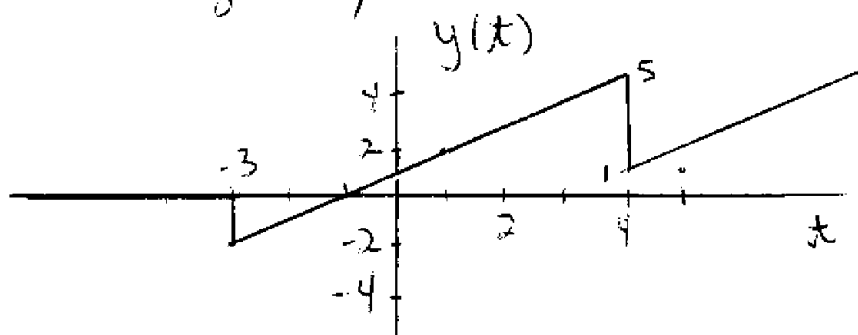


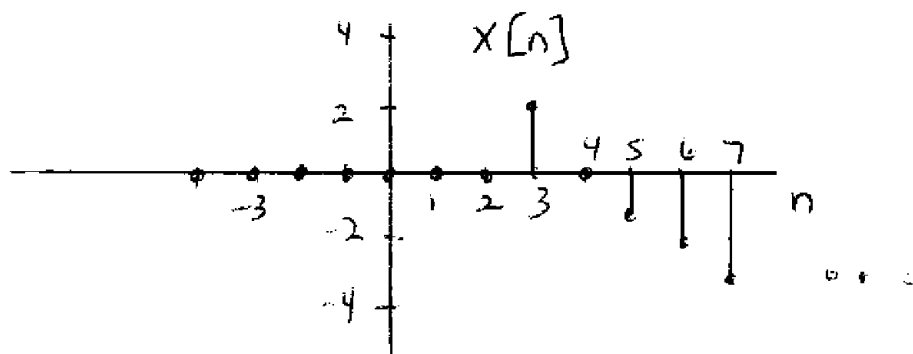
1 a)



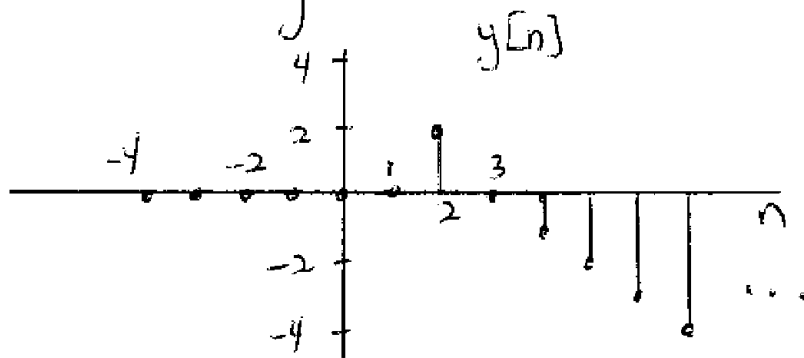
b) shift right by 1 sec



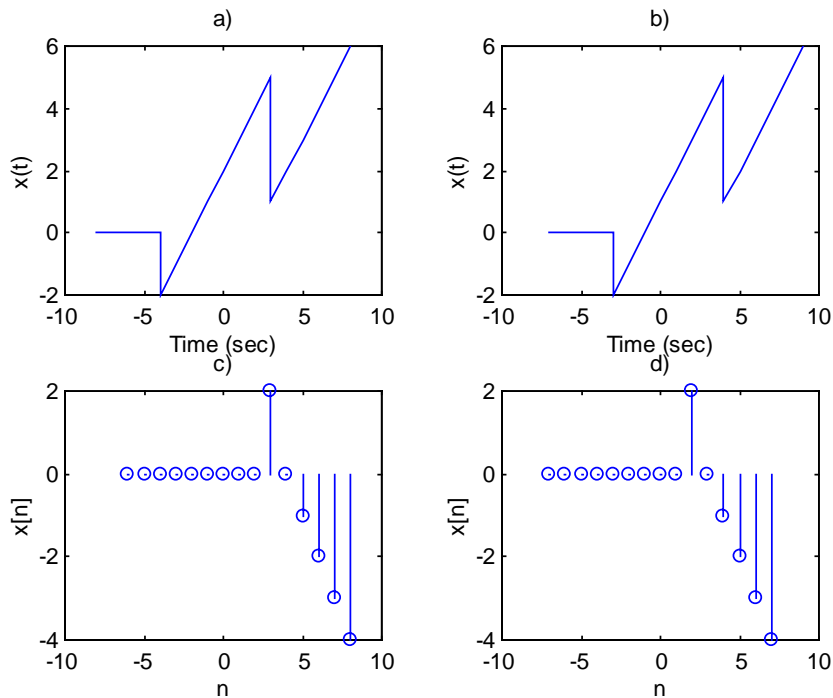
c)



d) shift left by 1



2.



The following commands were saved in an M-file:

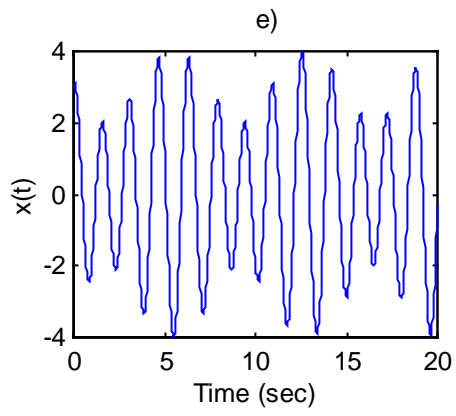
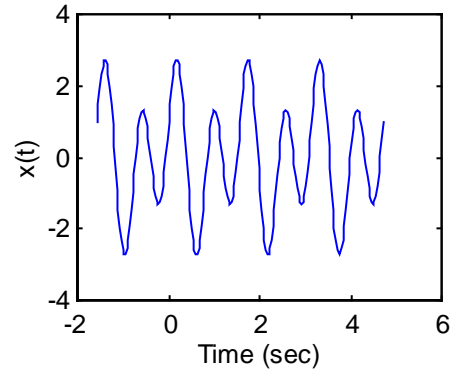
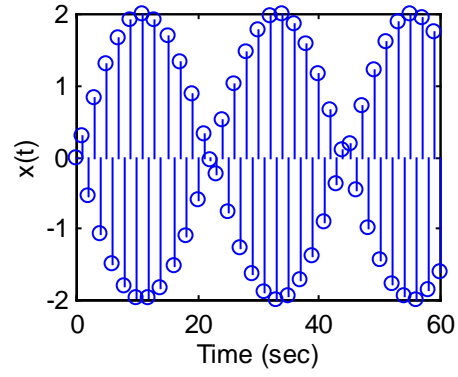
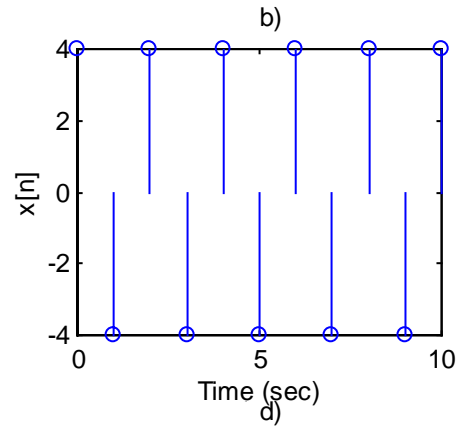
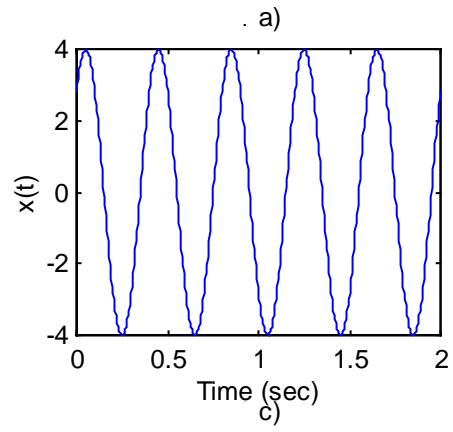
```
% a)
t1 = -8:-4; x1 = zeros(size(t1));
t2 = -4:3; x2 = t2+2;
t3 = 3:8; x3 = t3-2;
t = [t1 t2 t3];
x = [x1 x2 x3];
subplot(221),plot(t,x)
xlabel('Time (sec)')
ylabel('x(t)')
title('a')
```

```
% b)
t = t+1;
subplot(222),plot(t,x)
xlabel('Time (sec)')
ylabel('x(t)')
title('b')
```

```
% c)
n1 = -6:1; x1 = zeros(size(n1));
n2 = 2:3; x2 = 2*n2-4;
n3 = 4:8; x3 = 4-n3;
n = [n1 n2 n3];
x = [x1 x2 x3];
subplot(223),stem(n,x)
xlabel('n')
ylabel('x[n]')
title('c')
```

```
% d)
n = n-1;
subplot(224),stem(n,x)
xlabel('n')
ylabel('x[n]')
title('d'),subplot(111)
```

3.



Here is an M-file that contains the script to plot generate these plots:

```
% a)
% period is 2/5, so 2 sec is long enough for plot
t = 0:.4/100:2;
x = 4*cos(5*pi*t-pi/4);
subplot(2,2,1),plot(t,x)
xlabel('Time (sec)')
ylabel('x(t)')
title('a)')

% b)
% period is n=2, so plot for n=0 to 10
n=0:10;
x = 4*cos(pi*n);;
subplot(2,2,2),stem(n,x)
xlabel('Time (sec)')
ylabel('x[n]')
title(' b)')

% c)
% not periodic, try plotting for various lengths to see how it looks
n=0:60;
x = 2*sin(3*n);;
subplot(2,2,3),stem(n,x)
xlabel('Time (sec)')
ylabel('x(t)')
title('c)')

% d)
% period is 2pi/4, so plot for 4 cycles
T = 2*pi/4;
t = -T:T/50:3*T;
x = cos(4*t)+2*sin(8*t);
subplot(2,2,4),plot(t,x)
xlabel('Time (sec)')
ylabel('x(t)')
title('d)')

% e)
% not periodic, see how it looks for various lengths
t = 0:.02:20;
x = 3*cos(4*t)+sin(pi*t);
figure(2) % opens new window
subplot(2,2,1),plot(t,x)
xlabel('Time (sec)')
ylabel('x(t)')
title('e)')
subplot(1,1,1)
```