
ELEN110L - Lab1: MATLAB Review

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The goal of this lab is to refresh our MATLAB basics and to practice our introductory understanding of signal transformations

```
x = [-100 0 1 2 3 3 4 4 5 100];
y = [0 0 1 0 0 1 1 0 0 0];

figure(1)

%The original signal
subplot(2,3,1);           %Allocates plot space in subplot
plot(x,y);               %plots
grid;                    %turns on grid
axis([-5 15 -1 3]);      %sets axes
title('Problem 1');      %annotates plot

%The signal flipped across the y-axis
subplot(2,3,2);
plot(-x,y);
grid;
axis([-5 15 -1 3]);
title('Problem 2');

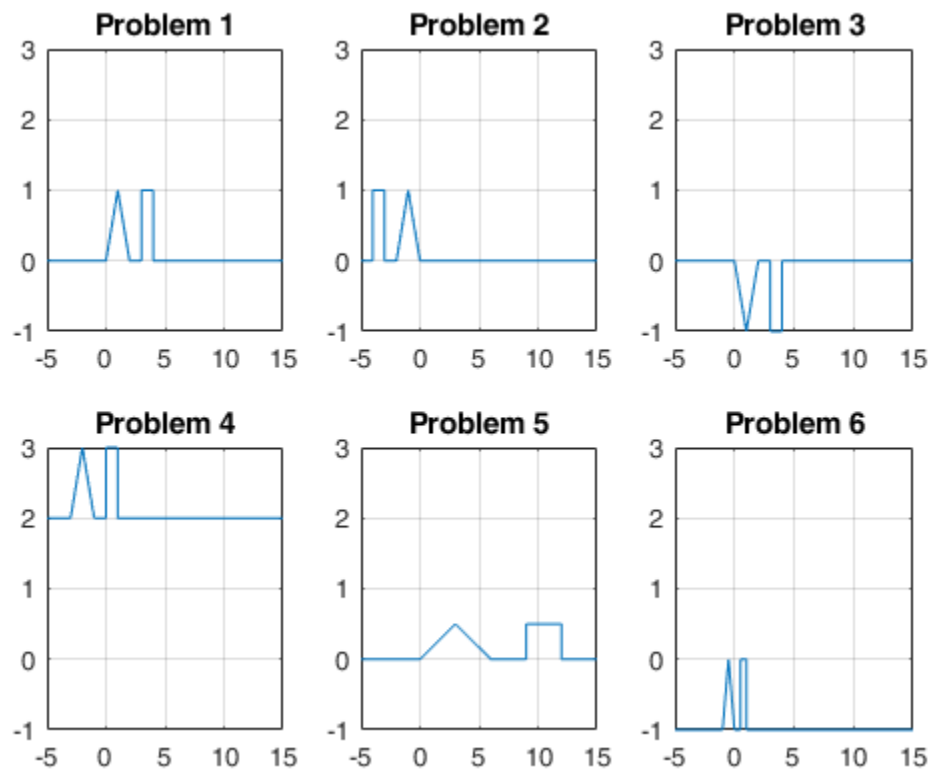
%The signal flipped across the x-axis
subplot(2,3,3);
plot(x,-y);
grid;
axis([-5 15 -1 3]);
title('Problem 3');

%Translate the signal up by 2, and to the left by 3
subplot(2,3,4);
plot(x-3,y+2);
grid;
axis([-5 15 -1 3]);
title('Problem 4');

%Scale the signal up horizontally by a factor of 3
%and scale it down by vertically by a factor of 2
subplot(2,3,5);
plot(3*x,0.5*y);
grid;
axis([-5 15 -1 3]);
title('Problem 5');

%Translate signal down 1 and left 2, and scale it
%down horizontally by a factor of 2
subplot(2,3,6);
plot(0.5*(x-2),y-1);
grid;
```

```
axis([-5 15 -1 3]);  
title('Problem 6');
```



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