Function that's used to plot results from linearized model for an airplane

This function takes in the time and results vectors from the ode45 function, as well as a title for plots and a letter that indicates what part of the problem is being plotted.

```
function [] = plutter(time, results, titlestring)
```

Extract the results from the results vector

```
    Deltav      = results(:,1);
    Deltap      = results(:,2);
    Deltar      = results(:,3);
    Deltaphi    = results(:,4);
    Deltapsi    = results(:,5);
    DeltaY      = results(:,6);
```

Create a new figure using a tiled layout to plot the responses of the six states, and title it.

```
    figure();
    tiles = tiledlayout(6,1);
    ti2 = title(tiles, ['Responses for ', titlestring]);
    set(ti2, 'Interpreter', 'latex');
    set(ti2, 'FontSize', 20);

    % Tile 1, Delta v Response
    nexttile;
    plot(time, Deltav);
    ylabel('m/s');
    plot1title = title('$\Delta v, \frac{m}{s}$');
    set(plot1title, 'Interpreter', 'latex');
    set(plot1title, 'FontSize', 20);
    grid on

    nexttile;
    plot(time, Deltap);
    ylabel('rad/s');
    plot1title = title('$\Delta p, \frac{rad}{s}$');
    set(plot1title, 'Interpreter', 'latex');
    set(plot1title, 'FontSize', 20);
    grid on

    nexttile;
    plot(time, Deltar);
    ylabel('rad/s');
    plot1title = title('$\Delta r, \frac{rad}{s}$');
    set(plot1title, 'Interpreter', 'latex');
    set(plot1title, 'FontSize', 20);
    grid on

    nexttile;
    plot(time, Deltaphi);
    ylabel('rad');
    plot1title = title('$\Delta \phi, rad$');
```

```
    set(plot1title, 'Interpreter', 'latex');
    set(plot1title, 'FontSize', 20);
    grid on

    nexttile;
    plot(time, Deltapsi);
    ylabel('rad');
    plot1title = title('$\Delta \psi, rad$');
    set(plot1title, 'Interpreter', 'latex');
    set(plot1title, 'FontSize', 20);
    grid on

    nexttile;
    plot(time, DeltaY);
    ylabel('m');
    plot1title = title('$\Delta Y, m$');
    set(plot1title, 'Interpreter', 'latex');
    set(plot1title, 'FontSize', 20);
    grid on

    xlabel(tiles,'Time, [s]');

end
```