Problem 1 Code

```
clear
close all

intervals = [5 1 0.1 0.01]; % define interval step sizes

for i = 1:4 % loop 4 times for each interval size
    % Evaluating
    dx = intervals(i);
    x = -10:dx:10; % inputs
    f = 10*pi*x.^2.*sin(2*x); % outputs
    % Plotting
    subplot(2,2,i)
    plot(x,f,'LineWidth',2)
    title(sprintf('dx = %0.2f',dx))
    xlabel('x')
    ylabel('f(x)')
    set(gca,'fontsize',14)
    grid on
end
sgtitle('f(x) = 10\pix^2sin(2x) Plotted With Different Interval
 Steps','fontsize',16,'fontweight','bold')
```

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