Question 1f

Partial Sum (S3)

Chart, diagram, histogram

Description automatically generated

Partial Sum (S60)

Chart

Description automatically generated with medium confidence

The code to generate the graphs

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% Question 1f

clc;clear;close all;

syms n;

x = -12:0.01:12;

F = symsum((1/n)\*((3\*sin(n\*pi/4) + sin(3\*n\*pi/4) - sin(n\*pi/2))\*(cos(n\*pi\*x/4))),n,1,3);

y = 1 + (2/pi) \* F;

figure;

plot(x,y,'k-');

xlabel("x");

ylabel("f(x)");

title("Partial Sum (S3)");

x = -12:0.01:12;

F = symsum((1/n)\*((3\*sin(n\*pi/4) + sin(3\*n\*pi/4) - sin(n\*pi/2))\*(cos(n\*pi\*x/4))),n,1,60);

y = 1 + (2/pi) \* F;

figure;

plot(x,y,'k-');

xlabel("x");

ylabel("f(x)");

title("Partial Sum (S60)");