AC_WHW1

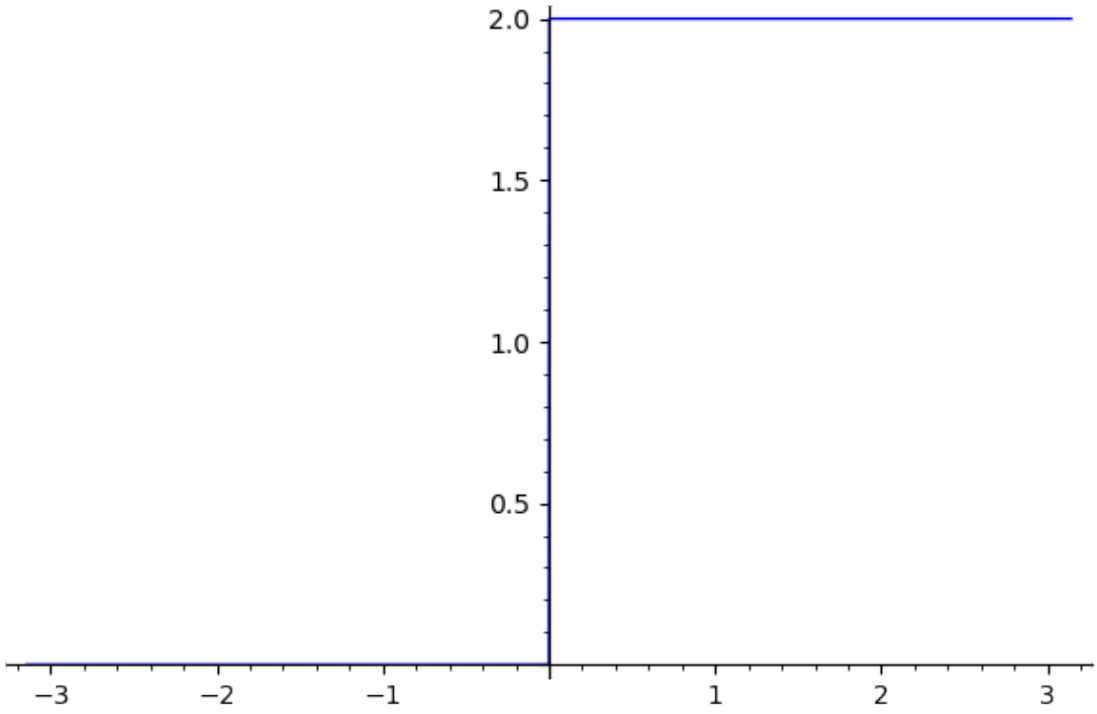
October 3, 2021

1 Advanced Calculus: Written HW 1

2 P2

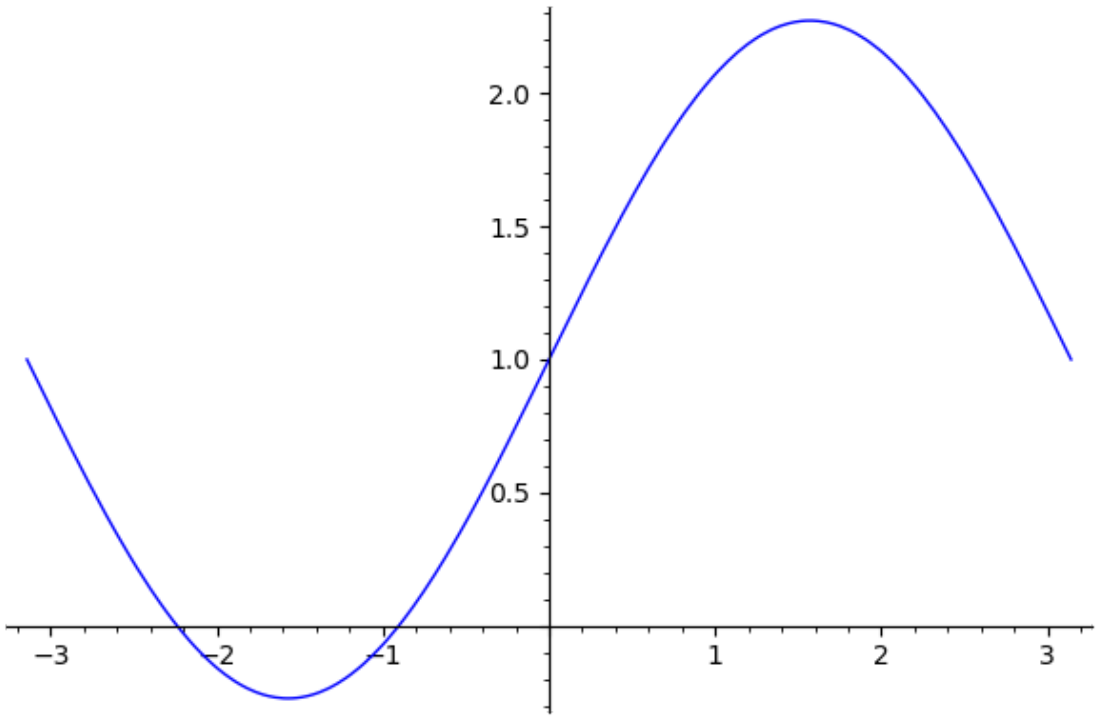
[13]:
```
F = piecewise([((-pi,0), 0), ((0,pi), 2)], var=x); F
plot(F, (-pi, pi))
```

[13]:



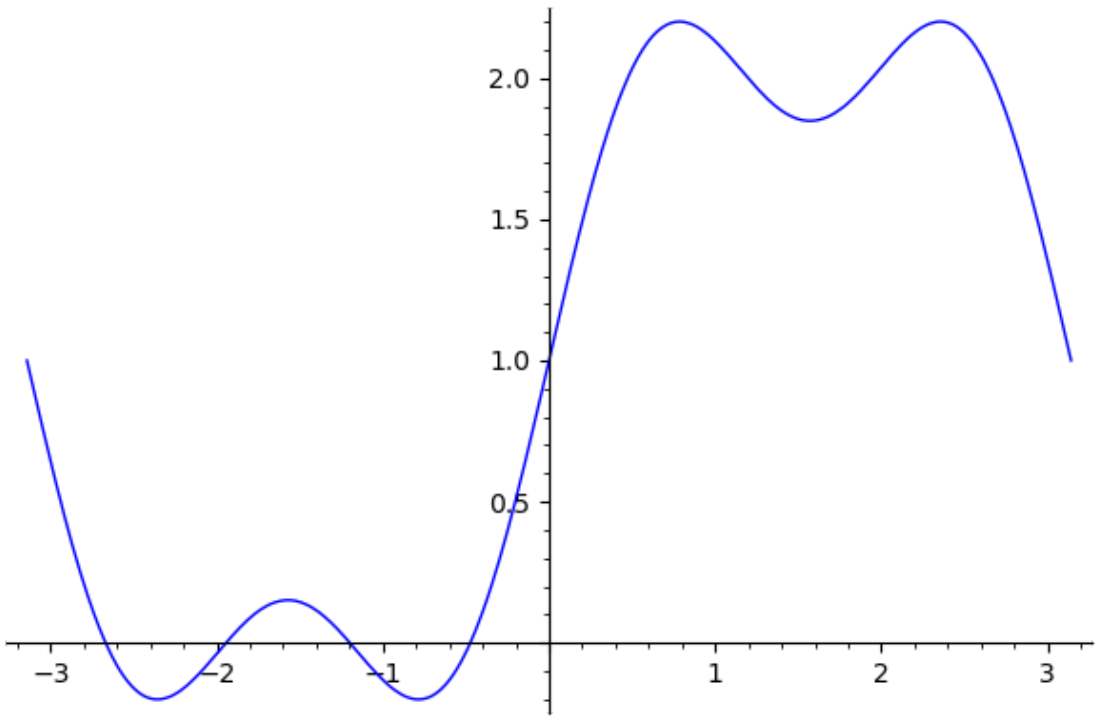
[26]:
```
F2 =1 + 4*sin(1*x)/(1*pi)
plot(F2, (-pi, pi))
```

[26]:



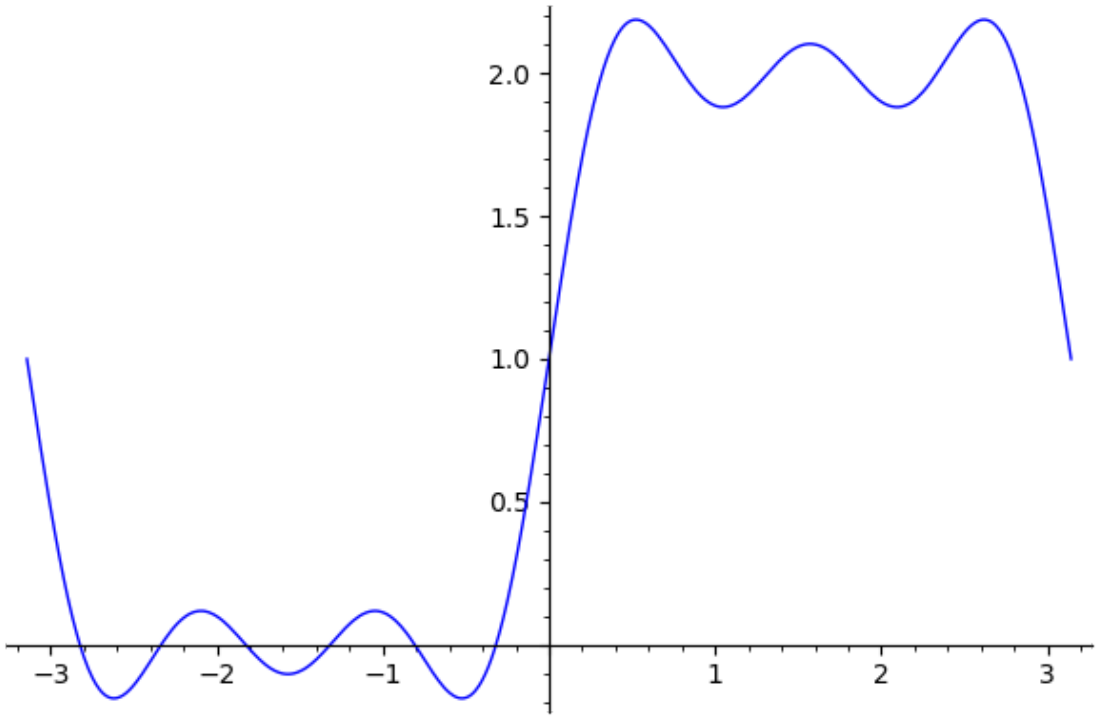
[27]:
```
F4 = 1 + 4*sin(1*x)/(1*pi) + 4*sin(3*x)/(3*pi)
plot(F4, (-pi, pi))
```

[27]:



[93]:
```
F6 = 1 + 4*sin(1*x)/(1*pi) + 4*sin(3*x)/(3*pi) + 4*sin(5*x)/(5*pi)
plot(F6, (-pi, pi))
```

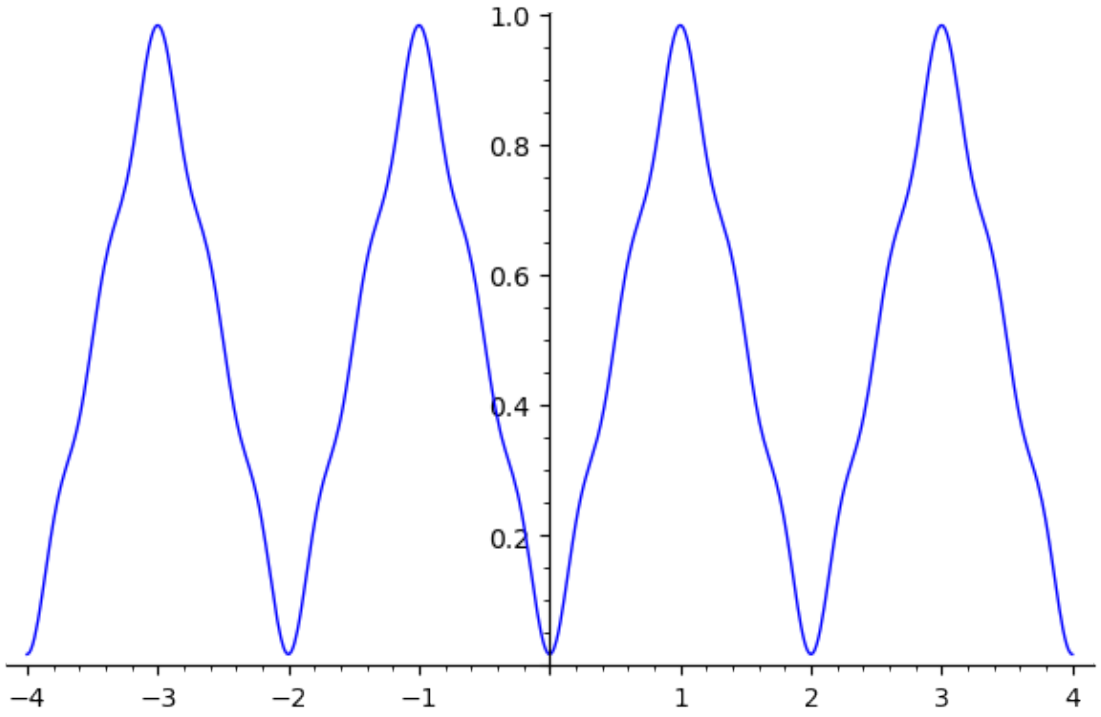
[93]:



3 P3

[95]:
```
g = .5 - 4*cos(pi*x)/(pi)^2 - 4*cos(3*pi*x)/(3*pi)^2 - 4*cos(5*pi*x)/(5*pi)^2 -␣
↪4*cos(5*pi*x)/(5*pi)^2
plot(g, (-4,4))
```

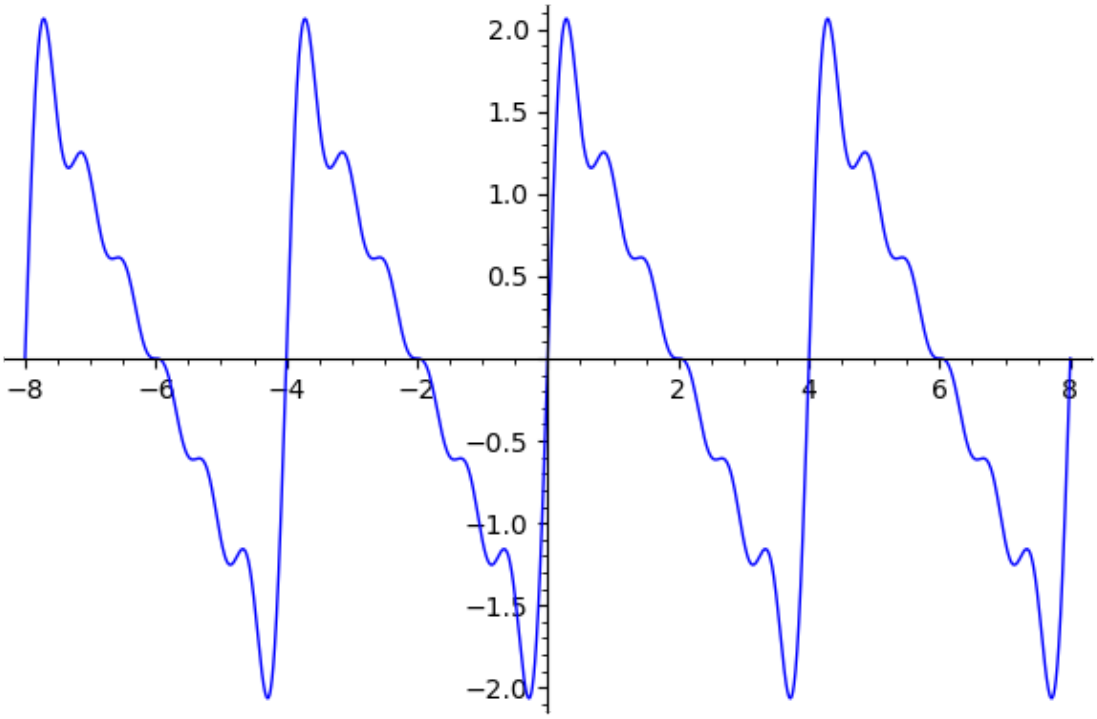
[95]:



4 P4

[94]:
```
h = 4*sin(1*pi*x/2)/(1*pi) + 4*sin(2*pi*x/2)/(2*pi) + 4*sin(3*pi*x/2)/(3*pi) +␣
↪4*sin(4*pi*x/2)/(4*pi) \
+ 4*sin(5*pi*x/2)/(5*pi) + 4*sin(6*pi*x/2)/(6*pi)
plot(h, (-8,8))
```

[94]:


2.0
1.5
1.0
0.5
−8
−6
−4
−2
2
4
6
8
−0.5
−1.0
−1.5
−2.0