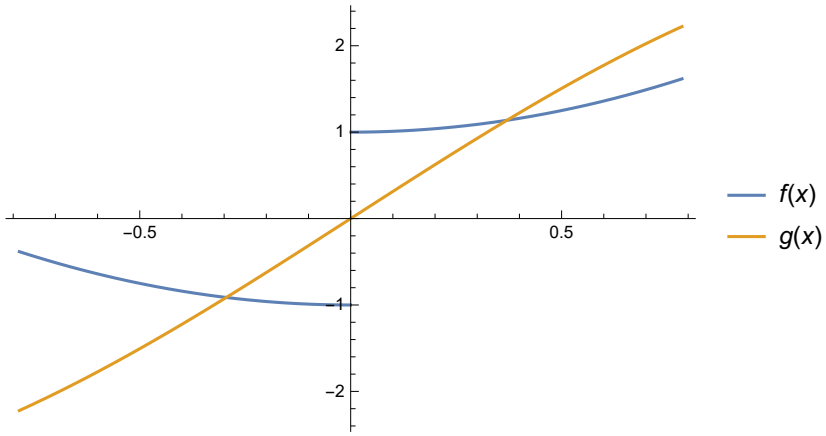
Answer for 6(a)

In[1]:=
```
f[x_] = x/Abs[x] + x^2; g[x_] = π Sin[x] ;
Plot[{f[x], g[x]}, {x, -π / 4, π / 4}, PlotLegends → "Expressions"]
```

Out[1]=



Answer for 6(b)

In[2]:=
```
(*6b*) Solve[f[x] == g[x] && -π / 4 ≤ x ≤ π / 4 , x , Reals ] // N
```

Out[2]=
```
{{x → 0.370389}, {x → -0.294886}}
```

Answer for 6(c)

Area enclosed by f(x) and g(x) = $\int_{\text{left intersection}}^{\text{right intersection}} \text{upper curve} - \text{lower curve}\, dx$

In[3]:=
```
∫_-0.2948856513387843`^0 (g[x] - f[x]) dx + ∫_0^0.3703891529602273` (f[x] - g[x]) dx
```

Out[3]=
```
0.325017
```