Gaussian Integration

In[ ]:=
```
f[x_] := e^-x^2;
```

In[ ]:=
```
Print["Answer = ", f[-1/Sqrt[3]] + f[1/Sqrt[3]]];
```

Answer = $\frac{2}{e^{1/3}}$

In[ ]:=
```
ClearAll;
Gaussian[ao_, bo_] :=
  Module[{a = N[ao], b = N[bo]},
   If[a == -1 && b == 1,
     Print["Answer = ", N[f[-1/Sqrt[3]] + f[1/Sqrt[3]]]],
     g[x_] := f[(a + b)/2 + (b - a) * x/2];
     T = (b - a)/2 * (g[-1/Sqrt[3]] + g[1/Sqrt[3]]);
     Print["Answer = ", T]
    ];
  ];
```

In[ ]:=
```
Gaussian[0, 1];
f[x_] := 1/(1 + x);
```

Answer = 0.746595

In[ ]:=
```
Gaussian[0, 2];
f[t_] := 1/t;
```

Answer = 1.09091

In[ ]:=
```
Gaussian[0, 2];
f[t_] := e^-t^2;
```

Answer = 3.

In[ ]:=
```
Gaussian[0, 1];
f[t_] := 1/(1 + t^2);
```

Answer = 0.746595

In[ ]:=
```
Gaussian[0, 1];
f[x_] := 1/(1 + x^2);
```

Answer = 0.786885