In[10]:=
```
r = 4;
f[x_] = r x (1 - x);
μ[x_] = 1 / (π √(x (1 - x)));
D[f[x], x]
```

Out[13]=

$$4\,(1 - x) - 4\,x$$

In[15]:=
```
Integrate[μ[x] * Log[Abs[D[f[x], x]]], {x, 0, 1}]
```

Out[15]=

$$\text{Log}[2]$$