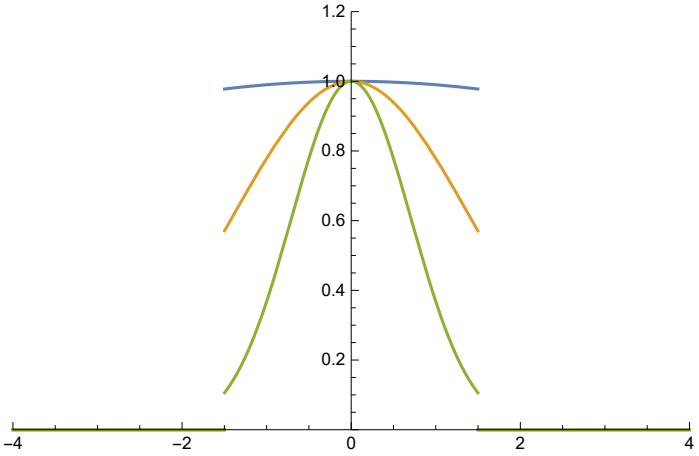
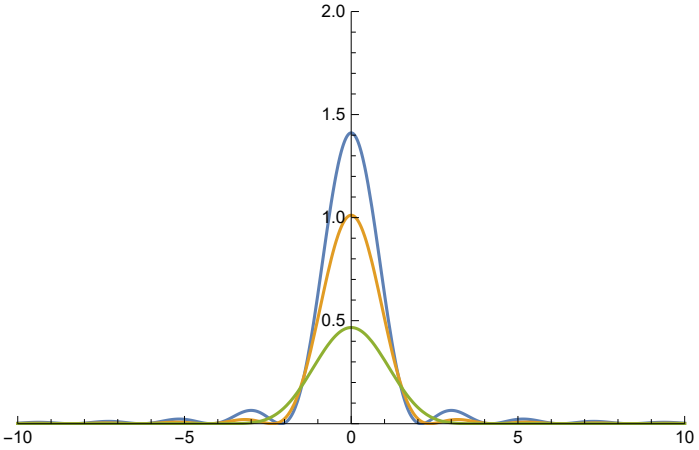
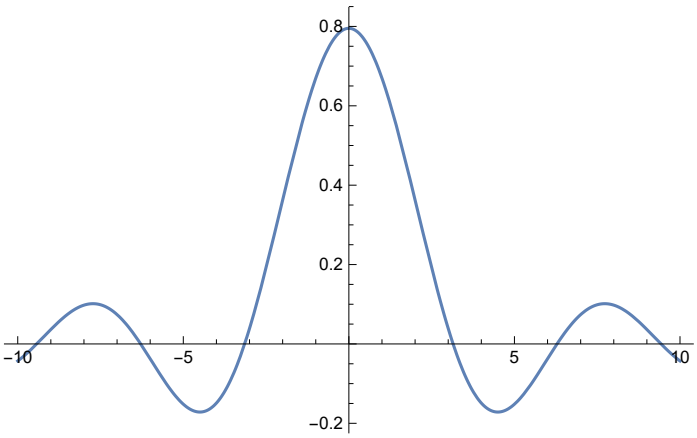
```
x0 = 1.5;
f[x_, s_] := Exp[-x^2 / s] * HeavisideTheta[x + x0] * HeavisideTheta[x0 - x]
Plot[{f[x, 100], f[x, 4], f[x, 1]}, {x, -4, 4}, PlotRange → {{-4, 4}, {0, 1.2}}]
F1[y_] = FourierTransform[f[x, 100], x, y];
F2[y_] = FourierTransform[f[x, 4], x, y];
F3[y_] = FourierTransform[f[x, 1], x, y];
Plot[{(F1[y])^2, (F2[y])^2, (F3[y])^2}, {y, -10, 10}, PlotRange → {{-10, 10}, {0, 2}}]
```






0.8
0.6
0.4
0.2
−0.2
−10
−5
5
10