

```

h[a_, mrt_, ot_, k1_] =
  1
  ----- Integrate[a (1 + Sign[a] k1) (xx[ot, W, mrt]) Exp[-W ^ 2 / 2], {W, -∞, ∞}] - a
  √ 2 π
-a + a emrt (1 + k1 Sign[a])

```

```

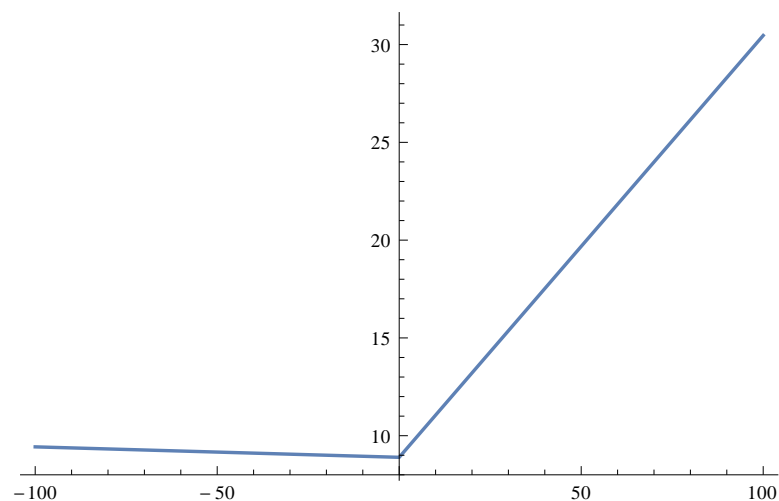
h3[a_, mrt_, ot_, k1_] :=
  1
  ----- NIntegrate[(Max[0, 10 - xx[ot, W, mrt]] + a (1 + Sign[a] k1) (xx[ot, W, mrt]))
  √ 2 π
  Exp[-W ^ 2 / 2], {W, -∞, ∞}] - a

```

```

Plot[{h3[x, 0.1, 0.3, 0.1]}, {x, 100, -100}]

```



```

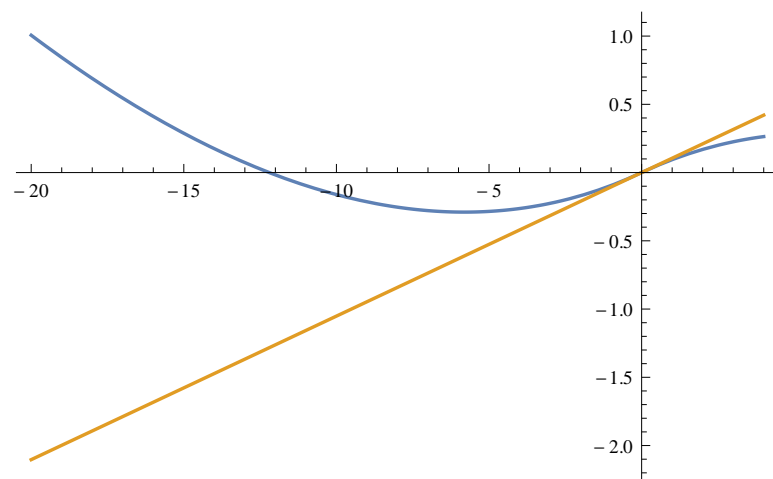
s = 5; θ = -0.1; g[a_, mrt_, ot_, k1_] := 1 / (Sign[a] θ) Log[1 / (√ 2 π)
  NIntegrate[Exp[θ Sign[a] (a (1 + Sign[a] k1) (xx[ot, W, mrt])) - W ^ 2 / 2], {W, -∞, ∞}]
  a

```

```

Plot[{g[x, 0.1, 0.4, 0], h[x, 0.1, 0.4, 0]}, {x, 4, -20}, PlotRange -> Automatic]

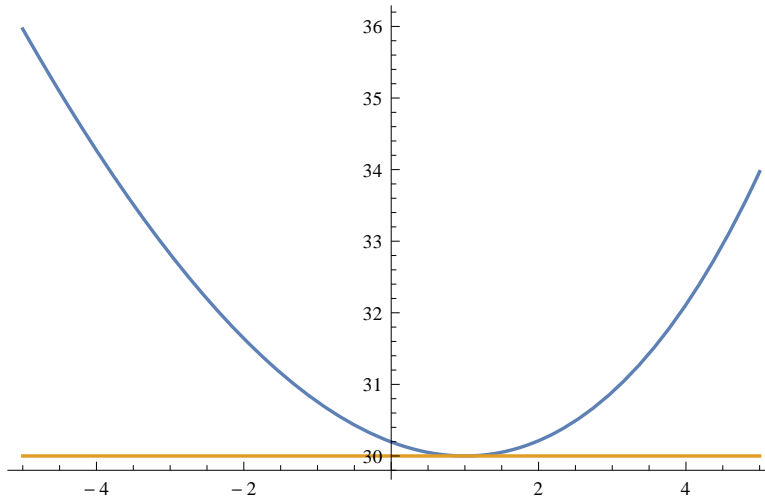
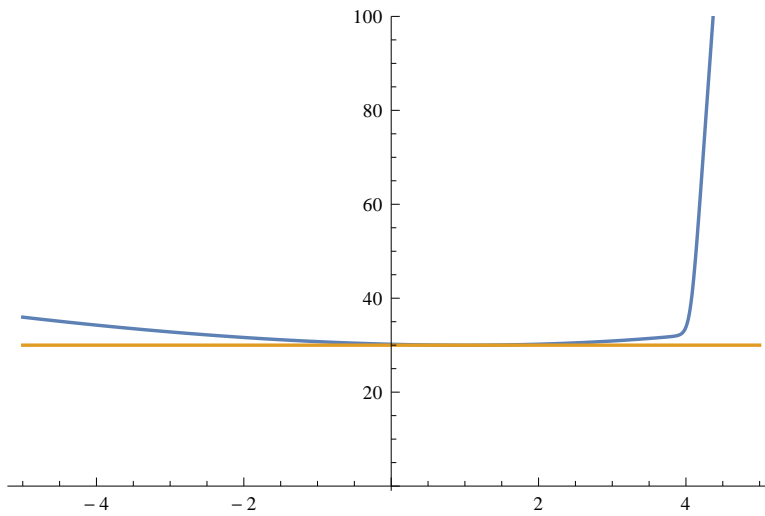
```



```

xx[ot_, W_, mrt_] := Exp[ot W + mrt - ot ^ 2 / 2]
x2[ot_, W_, mrt_, S_, a_, K_, k1_] :=
  Max[0, K - S xx[ot, W, mrt]] + Min[2000, S a (1 + Sign[a] k1) xx[ot, W, mrt] - S a];
h2[a_, mrt_, ot_, k1_, S_, K_] :=  $\frac{1}{\sqrt{2 \pi}}$ 
NIntegrate[x2[ot, W, mrt, S, a, K, k1] Exp[-W ^ 2 / 2], {W, -∞, ∞}];
f[a_, mrt_, ot_, k1_, S_, K_] :=  $\frac{-1}{\theta} \text{Log}\left[\frac{1}{\sqrt{2 \pi}}$ 
  NIntegrate[Exp[-θ x2[ot, W, mrt, S, a, K, k1] - W ^ 2 / 2], {W, -∞, ∞}]]];
Plot[{f[x, -0.1, 0.2, 0, 10, 40], h2[x, 0, 0.2, 0, 10, 40]},
  {x, 5, -5}, PlotRange → {-1, 100}]

```



```
f[1, -0.1, 0.2, 0, 10, 40]
```

$$-10 + 10 \cdot \text{Log}\left[\frac{1}{\sqrt{2 \pi}} \text{NIntegrate}\left[\text{Exp}\left[-\theta x2[0.2, W, -0.1, 10, 1, 40, 0] - \frac{W^2}{2}\right], \{W, -\infty, \infty\}\right]\right]$$

```

 $\sqrt{1/12}$  // N
0.288675

```

Dateien “pi(H) power” (= “pi(H) exp util):

```

x2[ot_, W_, mrt_, S_, a_, K_, k1_] :=
  Max[0, K - S xx[ot, W, mrt]] + Min[10 000, S a (1 + Sign[a] k1) (xx[ot, W, mrt])];

h2[a_, mrt_, ot_, k1_, S_, K_] :=  $\frac{1}{\sqrt{2 \pi}}$ 

NIntegrate[x2[ot, W, mrt, S, a, K, k1] Exp[-W^2 / 2], {W, -∞, ∞}] - S a;

f[a_, mrt_, ot_, k1_, S_, K_] :=  $\frac{-1}{\theta} \text{Log}\left[\frac{1}{\sqrt{2 \pi}}\right]$ 

NIntegrate[Exp[-θ x2[ot, W, mrt, S, a, K, k1] - W^2 / 2], {W, -∞, ∞}] - S a;

Plot[{f[x, -0, 0.2, 0, 10, 40], h2[x, 0, 0.2, 0, 10, 40]}, {x, 5, -5}]

```

