```
Kappa[n_] := N[MangoldtLambda[n] / Log[n]]
F[n_, p_, k_] :=
 F[n, p, k] = Sum[Kappa[j] p (1 / (k!) + F[Floor[n / j], p, k + 1]), {j, 2, n}]
FF[n_, p_] := 1 + F[n, p, 1]
G[n_, p_, k_] :=
 G[n, p, k] = Sum[Kappa[j] (p^k / (k!) - G[Floor[n / j], p, k + 2]), {j, 2, n}]
GG[n_, p_] := G[n, p, 1]
H[n_, p_, k_] :=
 H[n, p, k] = Sum[Kappa[j] (p^k / (k!) - H[Floor[n / j], p, k + 2]), {j, 2, n}]
HH[n_, p_] := 1 + H[n, p, 2]

H[100, 1, 1]

14.4652

DiscretePlot[GG[n, 1] + GG[n, -1], {n, 1, 500}]
DiscretePlot[HH[n, 1] - HH[n, -1], {n, 1, 500}]
```
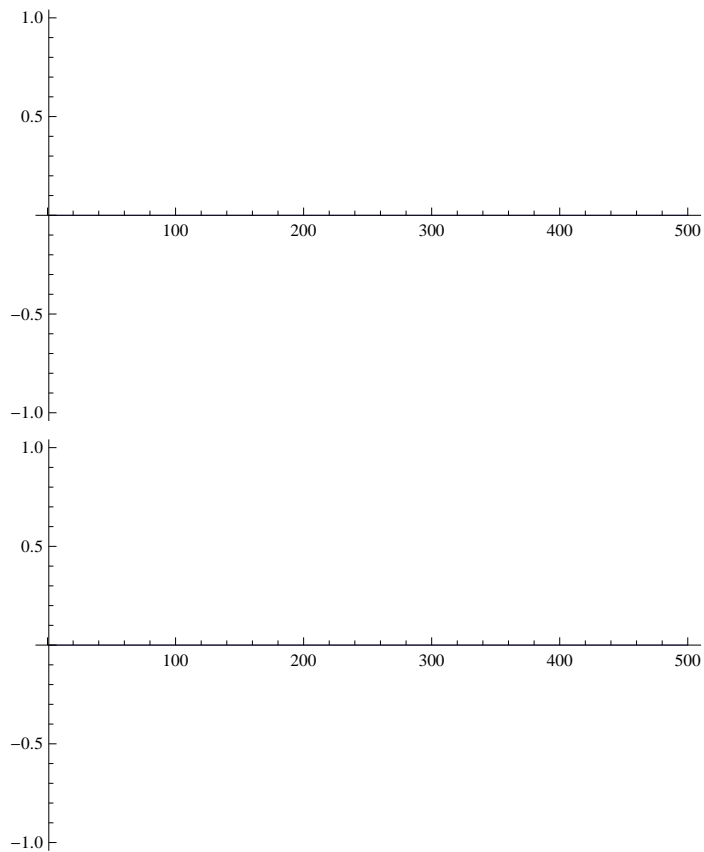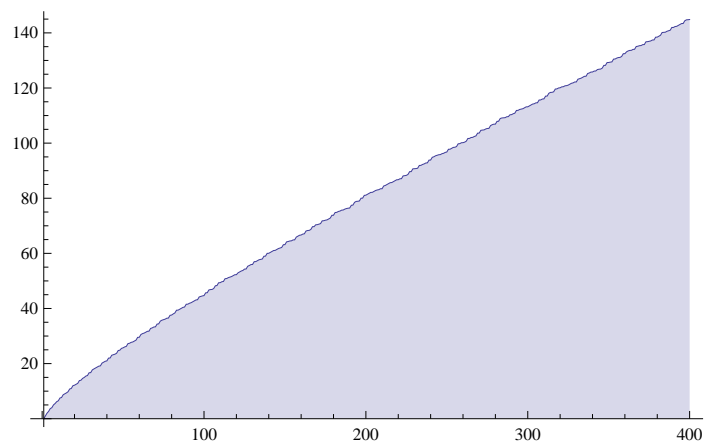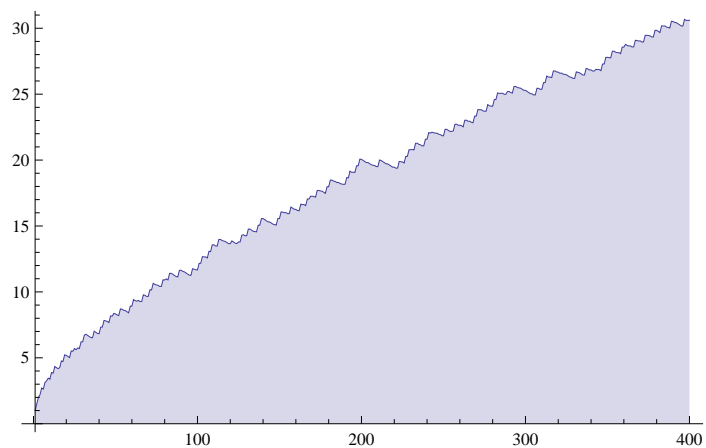
DiscretePlot[Im[GG[n, I]], {n, 1, 400}]

DiscretePlot[HH[n, 1], {n, 1, 400}]

HH[100, I]

−17.2122

FF[100, 3 I]

−69.625 − 405.125 ⅈ

GG[100, 3]

−112.674

HH[100, 3]

−66.3755