

```

DD[n_, k_] := DD[n, k] = Sum[DD[Floor[n / j], k - 1], {j, 1, n}]
DD[n_, 1] := n
DD[n_, 0] := 1
D2[n_, k_] := D2[n, k] = Sum[D2[Floor[n / j], k - 1], {j, 2, n}]
D2[n_, 1] := n - 1
D2[n_, 0] := 1

```

```
DD[100, 2]
```

```
D2[100, 2]
```

```
482
```

```
301
```

```
283
```

```
SN[n_, k_] := Sum[ (-1) ^ (j - 1) DD[n, 2 j - 1] / ((2 j - 1) !), {j, 1, k}]
```

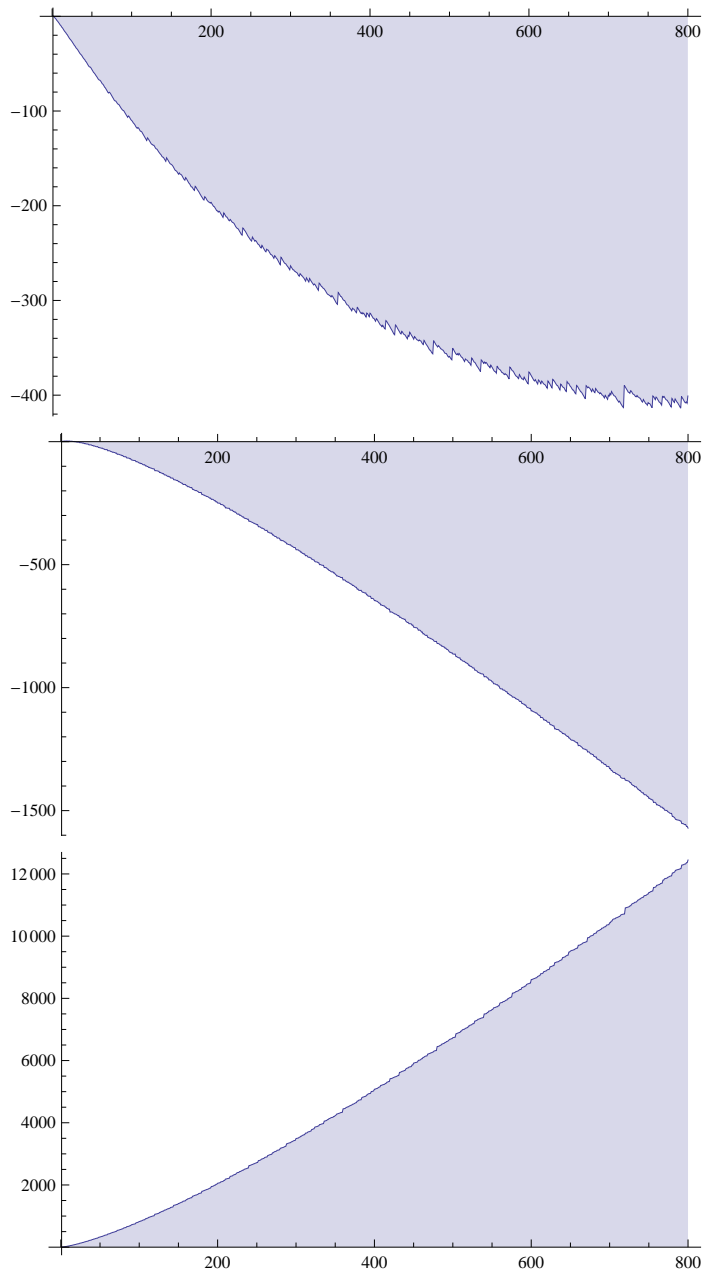
```
CS[n_, k_] := Sum[ (-1) ^ (j - 1) DD[n, 2 j - 2] / ((2 j - 2) !), {j, 1, k}]
```

```
EE[n_, k_] := Sum[ DD[n, j] / (j !), {j, 0, k}]
```

```
N[EE[100, 11]]
```

```
825.274
```

```
DiscretePlot[CS[n, 15], {n, 1, 800}]
DiscretePlot[SN[n, 15], {n, 1, 800}]
DiscretePlot[EE[n, 15], {n, 1, 800}]
```



```
Dx[0, a_, n_] := 1
Dx[k_, a_, n_] :=
  Sum[Binomial[k, j] Dx[k - j, m, n / m^j], {m, a + 1, Floor[n^k - 1]}, {j, 1, k}]
NumberOfPrimes[n_] := Sum[j^-1 MoebiusMu[j] (-1)^(k + 1) k^-1 Dx[k, 1, n^j - 1],
  {j, 1, Log[2, n]}, {k, 1, Log[2, n^j - 1]}]
NumberOfPrimes[1000]
```