

```

f[n_] := n
ff[n_, k_] := Sum[f[j] ff[Floor[n/j], k-1], {j, 1, n}]; ff[n_, 0] := 1
ffd[n_, k_] := ff[n, k] - ff[n-1, k]; ffd[1, 0] := 1

ffd[100, 5]

478 623

fa[n_, k_, t_] := Sum[ffd[j, 1] ff[n/j, k-1], {j, t+1, n}] +
  Sum[ffd[j, k-1] ff[n/j, 1], {j, 1, t}] + Sum[ffd[s, 1] ffd[j, m] ff[n/(j s), k-m-1],
    {j, 1, t}, {s, Floor[t/j] + 1, n/j}, {m, 1, k-2}]
fa[100, 5, 30]

478 623

fb[n_, k_, t_] := Sum[ffd[j, 1] ff[n/j, k-1], {j, t+1, n}] +
  Sum[ffd[j, k] ff[n/j, 0], {j, 1, t}] + Sum[ffd[s, 1] ffd[j, m] ff[n/(j s), k-m-1],
    {j, 1, t}, {s, Floor[t/j] + 1, n/j}, {m, 1, k-1}]
fb[100, 5, 30]

478 623

fc[n_, k_, t_] := Sum[ffd[j, 0] ff[n/j, k], {j, t+1, n}] +
  Sum[ffd[j, k] ff[n/j, 0], {j, 1, t}] + Sum[ffd[s, 1] ffd[j, m] ff[n/(j s), k-m-1],
    {j, 1, t}, {s, Floor[t/j] + 1, n/j}, {m, 0, k-1}]
fc[100, 5, 30]

478 623

ffd[1, 0]

0

fd[n_, k_, t_] :=
  Sum[ffd[j, k], {j, 1, t}] + Sum[ffd[s, 1] ffd[j, m] ff[n/(j s), k-m-1],
    {j, 1, t}, {s, Floor[t/j] + 1, n/j}, {m, 0, k-1}]
fd[100, 5, 30]

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