

```

Dhyp[n_, k_, a_] :=
  Sum[Binomial[k, j] Dhyp[n / (m^(k - j)), j, m + 1], {m, a, n^(1 / k)}, {j, 0, k - 1}]
Dhyp[n_, 1, a_] := Floor[n] - a + 1; Dhyp[n_, 0, a_] := 1
D2[n_, k_] := D2[n, k] = Dhyp[n, k, 2]
d2[n_, k_] := d2[n, k] = Dhyp[n, k, 2] - Dhyp[n - 1, k, 2]
D2Alt[n_, k_, a_] := Sum[d2[j, 1] D2[Floor[n / j], k - 1], {j, a + 1, n}] +
  Sum[d2[j, k - 1] D2[Floor[n / j], 1], {j, 2, a}] + Sum[d2[j, m] D2[Floor[n / (j s)], k - m - 1],
    {j, 2, a}, {s, Floor[a / j] + 1, Floor[n / j]}, {m, 1, k - 2}]
Grid[Table[{D2[n, k], D2Alt[n, k, Floor[n^(1 / 2)]]}, {n, 7, 1000, 41}, {k, 2, 8}]]
Grid[Table[{D2[n, k], D2Alt[n, k, Floor[n^(1 / 3)]]}, {n, 7, 1000, 41}, {k, 2, 8}]]

```

A very large output was generated. Here is a sample of it:

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d2[100, 3]

General::ivar: 3 is not a valid variable. >>

324 - $\partial_{3,2} 99$