```
dd[x_, k_, a_] := dd[x, k, a] = Sum[dd[x/(j+a), k-1, a], {j, 0, x-a}]
dd[x_, 0, a_] := 1
cc[x_, k_, a_] := a^(-k) dd[xa^k, k, a+1]
dd[100, 2, 2]
283
cc[100, 2, 1.1]
281.818
```

Plot[cc[100, 2, n], {n, 1, 1.1}]

