```
DX[n_, k_, s_] := Sum[
  Sum[Binomial[k, k - j] DX[Floor[n / m^j], k - j, m + 1], {j, 1, k}], {m, s, Floor[n^(1 / k)]}]
DX[n_, 0, s_] :=
 1
```

```
DX[n, 1, s]
```

$$1 - s + \text{Floor}[n]$$

```
DX[n, 2, s]
```

$$\sum_{m=s}^{\text{Floor}\left[\sqrt{n}\right]} \left(1 + 2\left(-m + \text{Floor}\left[\frac{n}{m}\right]\right)\right)$$

```
DY[n_, s_] := Sum[(1 + 2 (-m)), {m, s, Floor[Sqrt[n]]}]
FullSimplify[Expand[DY[n, s]]]
```

$$(-1 + s)^2 - \text{Floor}\left[\sqrt{n}\right]^2$$

```
DX[n_, 1, s_] := 1 - s + Floor[n]
DX[n_, 2, s_] := (-1 + s)^2 - Floor[Sqrt[n]]^2 + Sum[Floor[n / m], {m, s, Floor[Sqrt[n]]}]
```