

Then

- Recall $G_X(t) = t^3 f(t)$, so

$$\mathbb{P}(X = k) = \frac{(k-1)!}{2(k-3)!} 2^{-k}, \quad k \geq 3.$$

$$\left\{ 0, 0, \frac{3}{16}, \frac{3}{16}, \frac{5}{32}, \frac{15}{128}, \frac{21}{256}, \frac{7}{128}, \frac{9}{256}, \frac{45}{2048}, \frac{55}{4096}, \frac{33}{4096}, \frac{39}{8192}, \frac{91}{32768}, \right. \\ \left. \frac{105}{65536}, \frac{15}{16384}, \frac{17}{32768}, \frac{153}{524288}, \frac{171}{1048576}, \frac{95}{1048576}, \frac{105}{2097152}, \frac{231}{8388608} \right\}$$

