

$$\leq \sum i(i-1) p_i$$

$$\leq \sum_{i=0}^{\infty} i(i-1) p_i$$

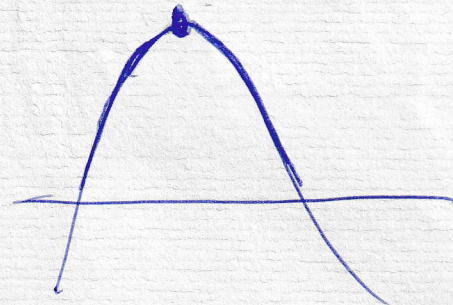
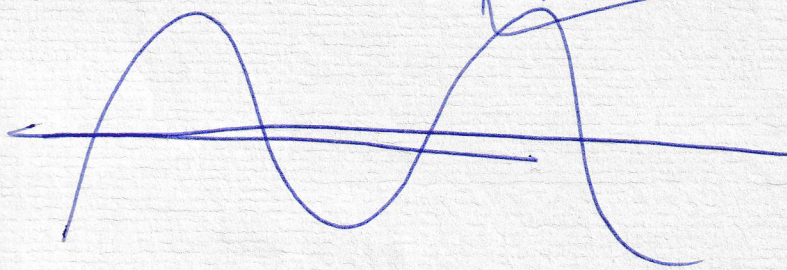
$$\sum_{i=2}^{\infty} (i-1) p_i$$

so it's in fact smaller!
and may be easier to bound!!

i.e. can look at lower moments!!

which may be easier to bound so make the proof a lot easier!

$$\leq \frac{1}{2} E\left[\frac{i^2(i-1)}{\mu^{1/2}(\mu-1)}\right]$$



$$E[\mu_N] = \sum i p(\mu_N = i)$$

$$P(\mu_N \geq 1, q_N \geq 1)$$

$$P[\mu_N \geq 1 | q_N \geq 1]$$

$$= \sum i j p_{ij}$$

