## PMF of a random dependant variable

- Let's suppose x = [-3 -2 -1 0 1 2 3]
  - let's suppose p(-3) = p1
  - p(-2) = p2
  - p(-1) = p3
  - p(0) = p4
  - p(1) = p5
- Let's suppose y = $x^2$ = [0 1 4 9]
  - Now the p(0) = p4
  - p(1) = p3+p5

## Parameters of Random Variable

- PMF
- Mean
- Variance
  - smaller—mean—higher
  - $E[(x - E[x])^2]$ = variance
- Stnd Deviation
  - $(var)^1/2$ = SD
- Moment
- Expected Values , Expectation
  - $\sum x.p_x(x)$ = Mean = E[x]
  - Mean is the first expectation