Visualization about Gamma random variables.
Say $X$ is a Gamma random variable with $\lambda = \frac{3}{4}$ and $r = 6$.
Then $X$ has the same distribution as $X_1 + X_2 + \ldots + X_6$
where the $X_j$'s are independent exponential random variables.

Think: $X$ is the total waiting time until the 6th event occurs.

- $X_1$ is the time until the 1st event
- $X_2$ is the time after the first event until the second event
- $X_3$ is the time after the second event until the third event
  
  
- $X_6$ is the time after the fifth event until the sixth event.