Erlang distribution

$$f(x) = \frac{\lambda^k x^{k-1} e^{-\lambda x}}{(k-1)!} \qquad (1)$$

The two tables below give the skewness and the kurtosis of the Erlang distribution for $k = 1, 2, ..., 10$ and either $\lambda = 1$ or 10. The skewness is always negative, except for $k = 1$, while in our models it is always positive. The kurtosis is always positive, in agreement with our models, but is always larger than the largest values in our models.

```
k    skew   kurt    for (lam=1)
1    0.21  -0.96
2   -1.01   1.51
3   -0.79   1.18
4   -0.65   0.76
5   -0.61   0.56
6   -0.63   0.49
7   -0.70   0.52
8   -0.80   0.65
9   -0.92   0.87
10  -1.03   1.16
```

```
k    skew    kurt   for (lam=10)
lam = 10
1    0.34  -0.80
2   -0.72   0.36
3   -0.77   1.09
4   -0.62   0.76
5   -0.53   0.56
6   -0.47   0.44
7   -0.42   0.36
8   -0.39   0.31
9   -0.36   0.27
10  -0.34   0.23
```
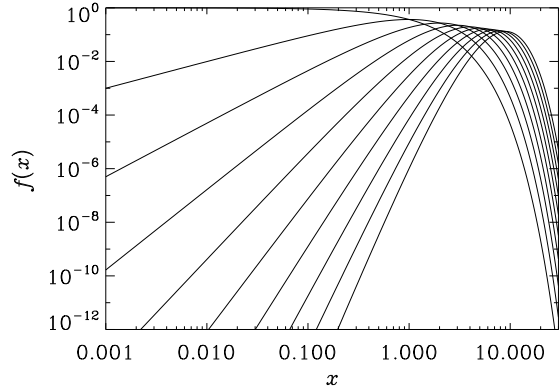

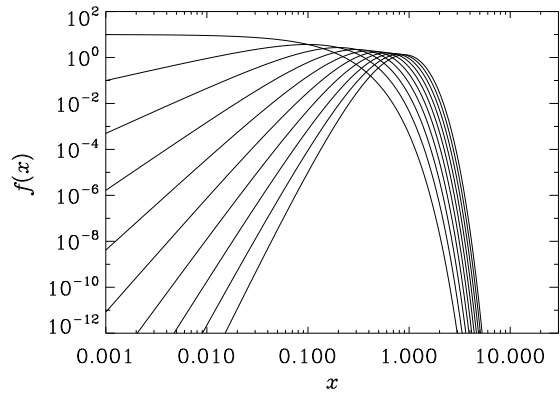Figure 1: $\lambda = 1$, $k = 1, 2, ..., 10$. All curves for $k = 1$ are flat for small x.

Figure 2: $\lambda = 10$, $k = 1, 2, ..., 10$. All curves for $k = 1$ are flat for small x.