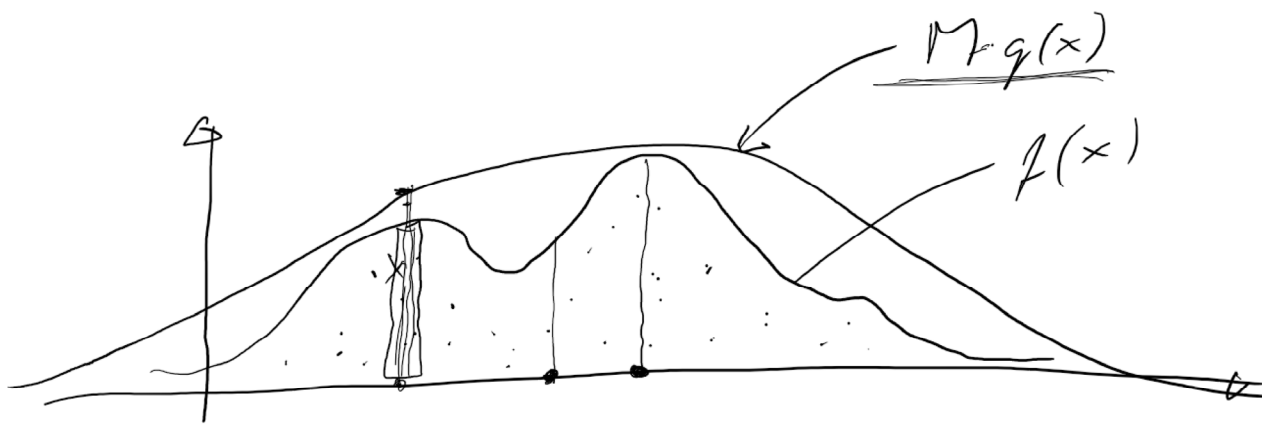


EXAMPLE: BETA-BINOMIAL CONJUGATE CASE

ASSUME POSTERIOR $\theta \sim \text{BETA}(7.3, 11.9)$

compute the prob. of 2 successes in next 7 trials:

$$\text{TA-BINOMIAL}(2; 7, 7.3, 11.9) = \dots = 0.2490633$$



$f(x)$ LOG-CONCAVE ON SOME INTERVAL

$\log f(x)$ IS CONCAVE — 1. —

$\log f(x) \leq ax - bx$ FOR SOME a, b , — II —

$$f(x) \leq \exp(ax - bx) = \frac{e^a}{b} \exp(-bx) \propto_x \underline{\underline{\text{Exp}(x; b)}}$$

