

$$P(v = 2.75 \mid \theta) = \sum_{h=1,2} P(v = 2.75, h \mid \theta)p(h)$$

$$\frac{1}{2\sqrt{\pi}}(e^{-(2.75-\theta)^2} + e^{-(2.75-2\theta)^2})$$

$$q(h \mid v) = (\log p(v, h \mid \theta))$$

$$q(h \mid v) + (\log p(h))q(h \mid v)$$

$$= -((v-\theta h)^2) + const$$

$$\log p(v = 2.75 \mid \theta) \geq L(q(2)^\theta)$$

$$\equiv -q(1)\log q(1) - q(2)\log q(2) - \sum_{h=1,2} q(h)(2.75-\theta h)^2 + const$$