

EXAMPLE: $G_0 = 67.3$,
 $\mu = 0.08$, $\sigma = 0.3$

$$G_t = G_0 e^{\mu t + \sigma B_t}$$

$$P(G_3 > 100) = P(G_0 e^{3\mu + \sigma B_3} > 100) = P(e^{3\mu + \sigma B_3} > \frac{100}{G_0})$$
$$= P(3\mu + \sigma B_3 > \log(100/G_0)) = P(B_3 > \frac{\log(100/G_0) - 3\mu}{\sigma})$$

(in R:)

$$1 - \text{pnorm}((\log(100/67.3) - 3 \cdot 0.08) / 0.3, 0, \text{sqrt}(3))$$
$$= \underline{\underline{0.3819}}$$