std deviation as a function of theta — x-axis: theta, y-axis: sqrt(100 + 100^2/theta)
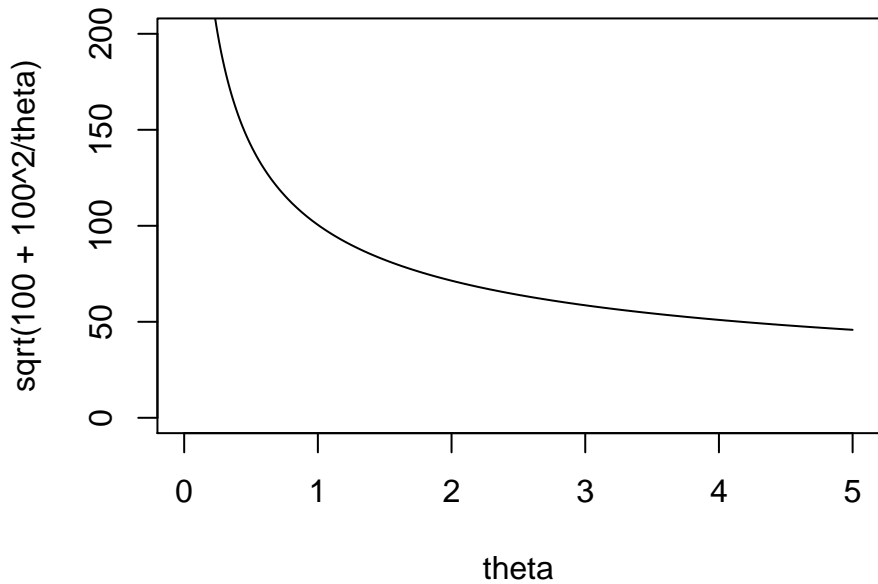
Gamma(0.1, 0.1) prior for theta — x-axis: theta, y-axis: dgamma(theta, 10, 10)