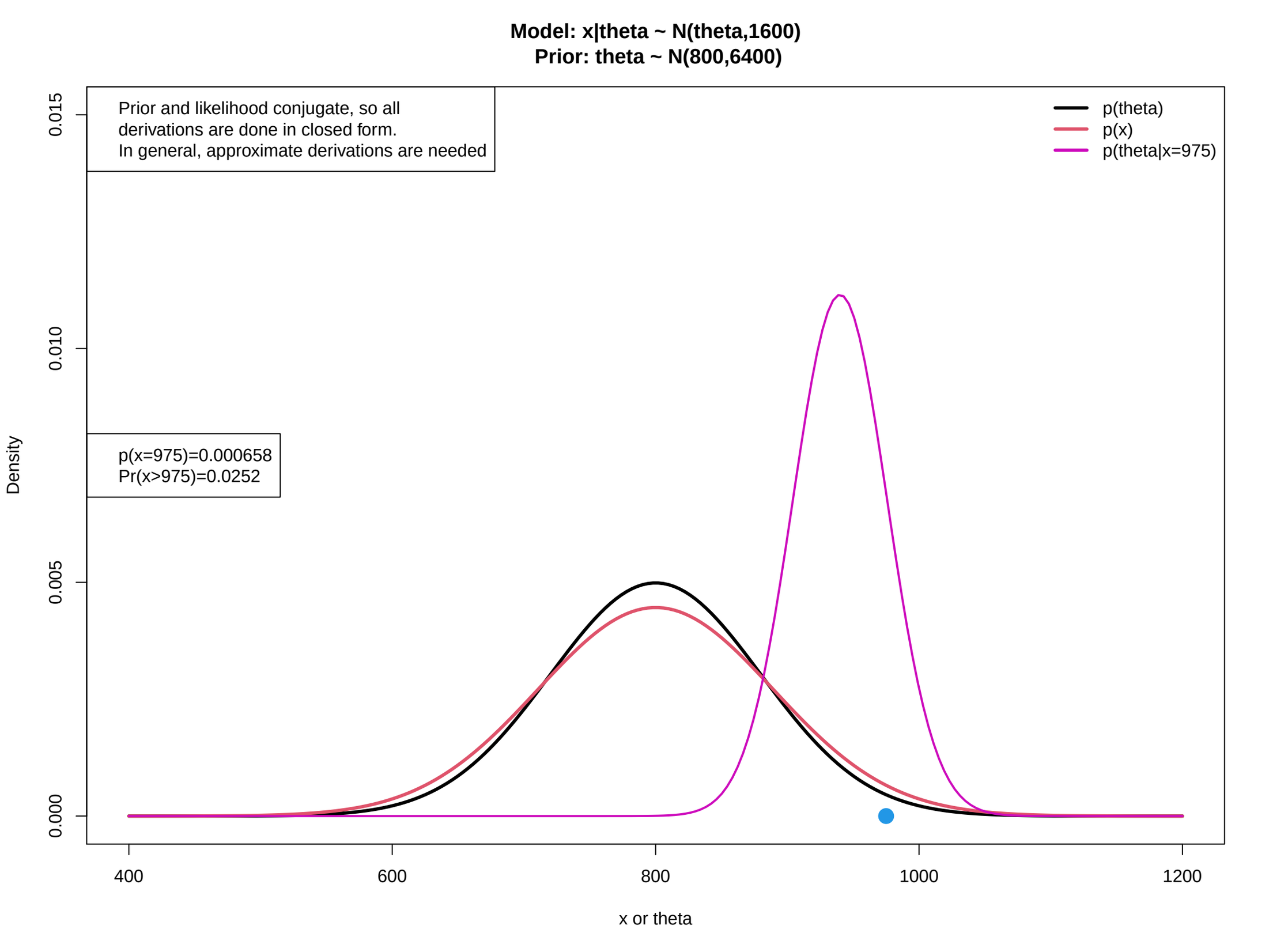
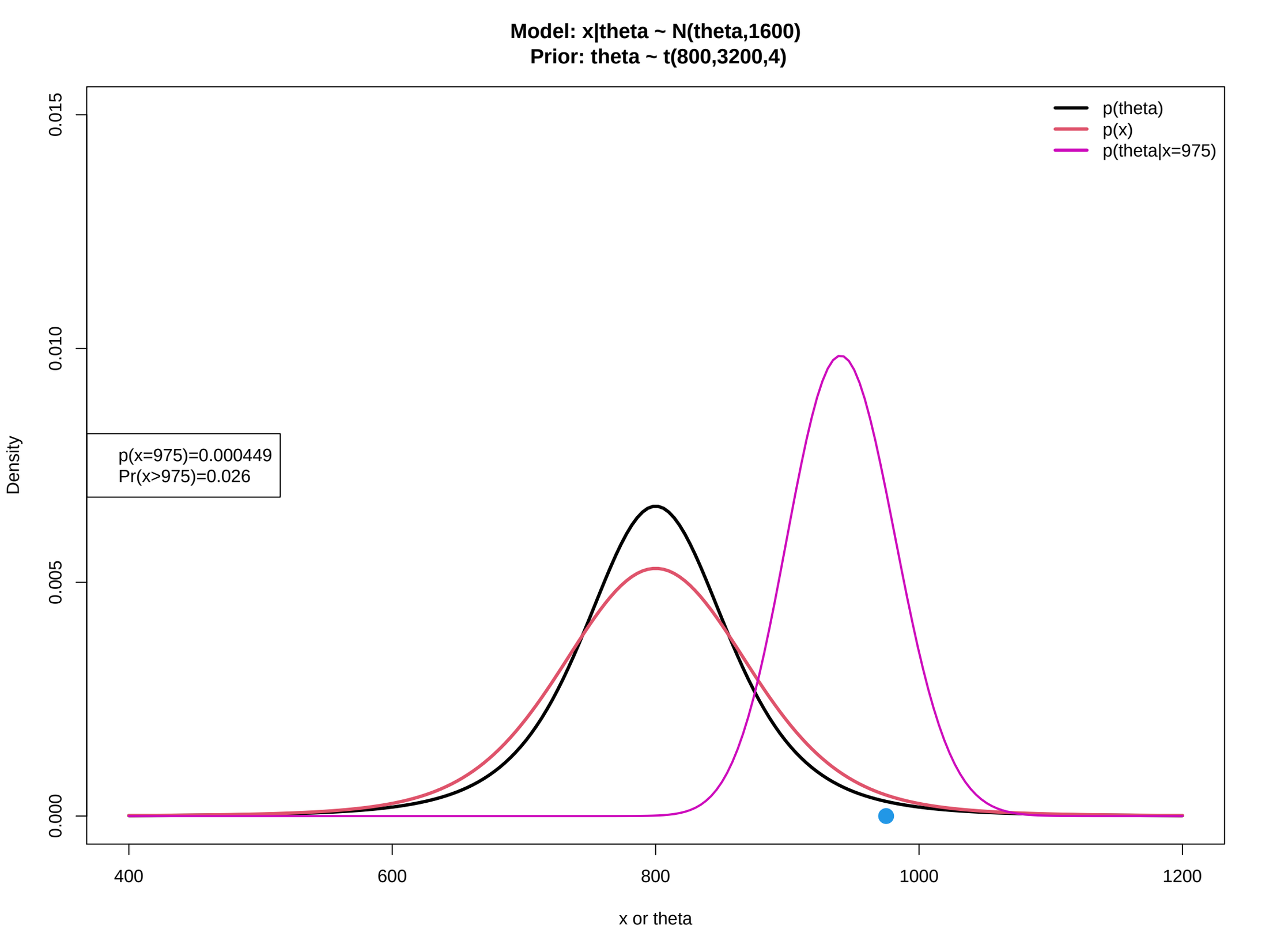
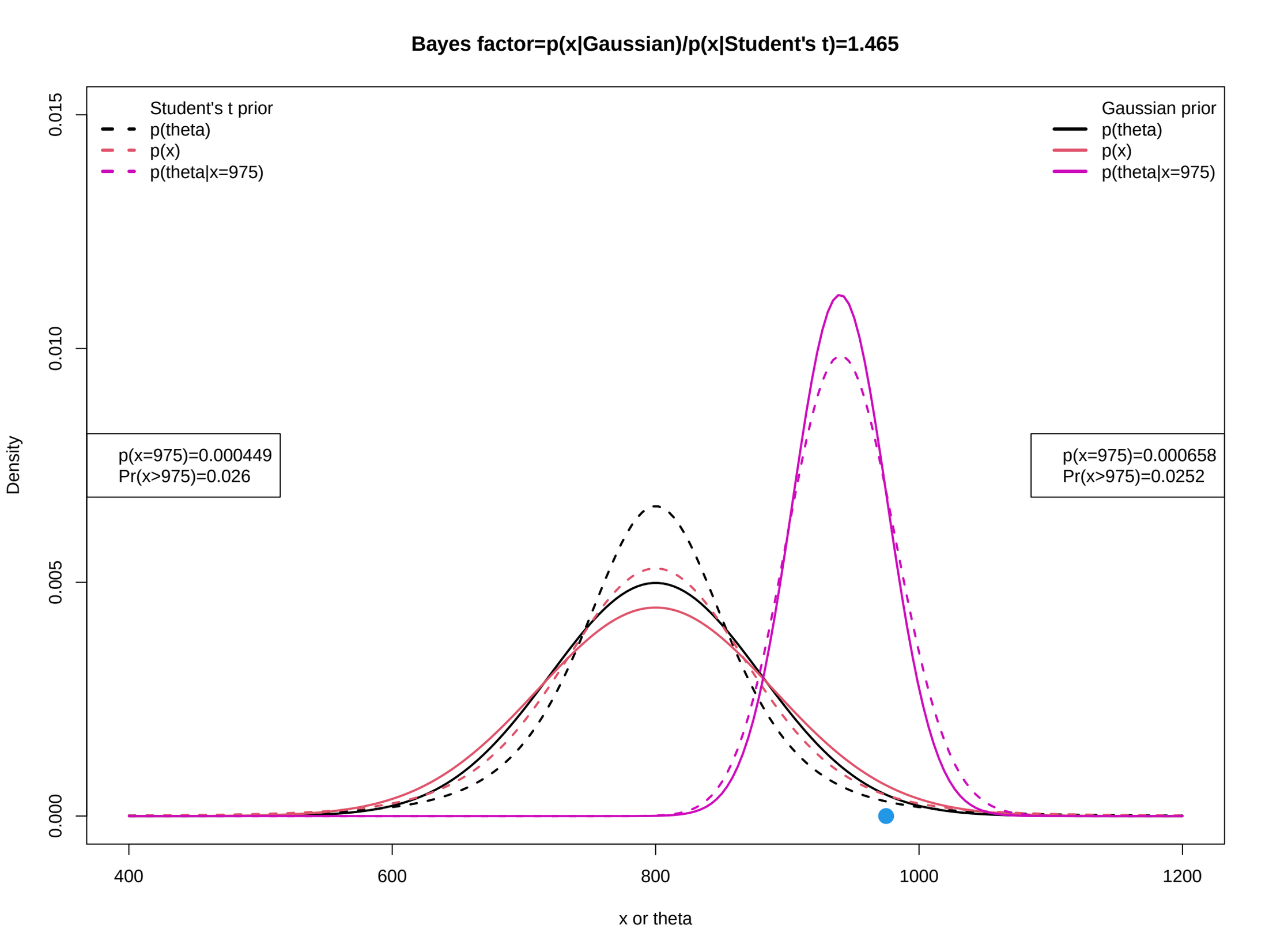

Model: x|theta ~ N(theta,1600)
Prior: theta ~ N(800,6400)
Prior and likelihood conjugate, so all
derivations are done in closed form.
In general, approximate derivations are needed
p(theta)
p(x)
p(theta|x=975)
p(x=975)=0.000658
Pr(x>975)=0.0252
Density
0.000
0.005
0.010
0.015
400
600
800
1000
1200
x or theta


Model: x|theta ~ N(theta,1600)
Prior: theta ~ t(800,3200,4)
p(theta)
p(x)
p(theta|x=975)
p(x=975)=0.000449
Pr(x>975)=0.026
Density
0.000
0.005
0.010
0.015
400
600
800
1000
1200
x or theta


Bayes factor=p(x|Gaussian)/p(x|Student's t)=1.465
Student's t prior
p(theta)
p(x)
p(theta|x=975)
Gaussian prior
p(theta)
p(x)
p(theta|x=975)
p(x=975)=0.000449
Pr(x>975)=0.026
p(x=975)=0.000658
Pr(x>975)=0.0252
Density
0.000
0.005
0.010
0.015
400
600
800
1000
1200
x or theta