```
clear
range theta 0 0.5 1000
gen L = theta*(1-theta)^19
gen prior = 10*inrange(theta,0.3,0.4)
gen posterior = L*prior
integ posterior theta
replace posterior = posterior/r(integral)
twoway (line prior theta) (line posterior theta) , xscale(ra(0 0.5)) ///
   xlabel(0(0.1)0.5) legend(position(10) ring(0))

clear
range theta 0 1 2000
gen L = theta*(1-theta)^19
gen prior = 0.1+9*inrange(theta,0.3,0.4)
gen posterior = L*prior
integ posterior theta
replace posterior = posterior/r(integral)
twoway (line prior theta if theta<0.5) (line posterior theta if theta<0.5) ///
   , xscale(ra(0 0.5)) xlabel(0(0.1)0.5) legend(position(10) ring(0))
```