[redacted] Let ({a, b}, *) be a semigroup where a*a* =*b. Show that- a*b=b*a.

Sol.

Given

({a*b}, *) is a semigroup

And a*a = b.

Now

a*b* = *a*(a*a) (*∵ *a*a=b)

a*b* =*(a*a)*a (by associative law)

a*b* =*b*a (∵ a*a=b)