Elastic collision

m1v1+m2v2=m1v1’+m2v2’

m1v1^2+m2v2^2=m1v1’^2+m2v2’^2

m1v1^2-m1v1’^2=m2v2’^2-m2v2^2

m1(v1^2-v1’^2)=m2(v2’^2-v2^2)

m1(v1-v1’)(v1+v1’)=m2(v2’-v2)(v2’+v2) 1

m1v1+m2v2=m1v1’+m2v2’

m1(v1-v1)’=m2(v2’-v2) 2

(v1+v1’)=(v2’+v2) <= 1+2