

### Additional Problems Assignment 30

1. Show that if  $A$  and  $B$  are  $2 \times 2$  matrices then:

$$\det(AB) = \det(A) \det(B)$$

2. Show that the determinate of a  $2 \times 2$  matrix is linear in the second row.
3. Show that the determinate of a  $3 \times 3$  matrix is linear in the second row.