

Cofactor expansion — 4x4

$$\det(A) = + a_{11} M_{11} - a_{12} M_{12} + a_{13} M_{13} - a_{14} M_{14}$$

M_{11} (3x3 minor)

[_ _ _]
[_ _ _]
[_ _ _]
= _____

M_{12} (3x3 minor)

[_ _ _]
[_ _ _]
[_ _ _]
= _____

M_{13} (3x3 minor)

[_ _ _]
[_ _ _]
[_ _ _]
= _____

M_{14} (3x3 minor)

[_ _ _]
[_ _ _]
[_ _ _]
= _____

$\det(A) =$

**Checked by row
reduction?**
