

Quiz 1

For each of the questions below use an appropriate technique to compute the determinants of the given matrices. Do not use your calculator for anything other than checking your answer (ie: show all steps).

1. (4 points) Given that $\begin{vmatrix} a & b & c \\ d & e & f \\ g & h & i \end{vmatrix} = -4$, compute the following:

a. $\begin{vmatrix} 3a & 3b & 3c \\ -d & -e & -f \\ 2g & 2h & 2i \end{vmatrix} =$

b. $\begin{vmatrix} d & e & f \\ a & b & c \\ 2a + g & 2b + h & 2c + i \end{vmatrix} =$

2. (6 points) Compute:

$$\begin{vmatrix} 1 & 3 & 1 & 5 & 3 \\ -2 & -7 & 0 & -4 & 2 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 2 & 1 & 1 \\ 0 & 0 & 0 & 1 & 1 \end{vmatrix} =$$