Kuta Software - Infinite Algebra 2 Name_____

# Determinants of 3x3 Matrices

Class_____ Period_____

**Evaluate the determinant of each matrix.**

1) $\begin{bmatrix} 3 & -2 & 3 \\ 3 & -5 & -3 \\ 3 & -2 & -5 \end{bmatrix}$

2) $\begin{bmatrix} -3 & 2 & -5 \\ 0 & -5 & -3 \\ 3 & 0 & -5 \end{bmatrix}$

**Evaluate each determinant.**

3) $\begin{vmatrix} 2 & 2 & 2 \\ -4 & -2 & 2 \\ 2 & 2 & 0 \end{vmatrix}$

4) $\begin{vmatrix} -6 & -6 & 2 \\ 2 & -2 & -2 \\ 6 & 2 & -2 \end{vmatrix}$

5) $\begin{vmatrix} 0 & 2 & -2 \\ -2 & -4 & -2 \\ 2 & -2 & 2 \end{vmatrix}$

6) $\begin{vmatrix} -2 & 2 & -6 \\ 0 & -2 & 2 \\ -7 & 2 & -6 \end{vmatrix}$

7) $\begin{vmatrix} 2 & 4 & 2 \\ -4 & 4 & 2 \\ 2 & -4 & 2 \end{vmatrix}$

8) $\begin{vmatrix} 4 & 2 & -2 \\ -7 & 4 & -2 \\ 2 & -4 & 2 \end{vmatrix}$

9) $\begin{vmatrix} -2 & -8 & 9 \\ 6 & 4.2 & -7 \\ -100 & 3 & 2 \end{vmatrix}$

10) $\begin{vmatrix} -2 & 2 & 2 \\ -8 & 9 & -2 \\ 6 & 2 & 6 \end{vmatrix}$

11) $\begin{vmatrix} 0 & a & 0 \\ b & c & d \\ 0 & e & f \end{vmatrix}$

12) Which values of $x$ make the determinant $=0$?
$\begin{vmatrix} -2 & 0 & 0 \\ -6 & x & 2 \\ -6 & 0 & x \end{vmatrix}$