Name: Solutions

1. Find the determinant of the matrix $A = \begin{pmatrix} 1 & 2 & 1 \\ 1 & 3 & 2 \\ 3 & 8 & 6 \end{pmatrix}$.

$$\begin{vmatrix} 1 & 2 & 1 \\ 1 & 3 & 2 \\ 3 & 8 & 6 \end{vmatrix} = 1 \begin{vmatrix} 3 & 2 \\ 8 & 6 \end{vmatrix} - 2 \begin{vmatrix} 1 & 2 \\ 3 & 6 \end{vmatrix}$$

$$+ 1 \begin{vmatrix} 1 & 3 \\ 3 & 8 \end{vmatrix}$$

$$= 1(2) - 2(0) + 1(-1)$$

$$= 1.$$

2. Based on your result above, is A singular or nonsingular?

nonsingular