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Evaluate each of the following determinants. Show your work neatly organized.

1. $\begin{vmatrix} 3 & 5 \\ 2 & 4 \end{vmatrix} =$ _____

2. $\begin{vmatrix} -2 & 3 \\ -3 & 2 \end{vmatrix} =$ _____

3. $\begin{vmatrix} -5 & 4 & -2 \\ 0 & 6 & 2 \\ 0 & 0 & -3 \end{vmatrix} =$ _____

4. $\begin{vmatrix} 4 & -5 & 1 \\ 3 & -2 & 2 \\ -3 & 1 & 3 \end{vmatrix} =$ _____

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

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Use Cramer's rule to solve each of the following systems. Show your work neatly organized.

6. $3x + 2y = 0$
$x - 3y = -11$

7. $3x + y = 2$
$5x + 3y = 3$

8. $x + 3y - z = -4$
$2x - 2y + z = 9$
$-2x + y - 3z = -14$

9. $3x + 5y = 2$
$2x - 3z = -5$
$4y + z = 3$

10. Consider the triangular region shown below. Use a determinant to find its area. Show your work neatly organized.