Transition to College Math

Guided Practice Unit 2 Lesson 3 Determinants

Name _____ Date _____ Period _____

Evaluate each determinant. Show your work.

1. $\begin{vmatrix} 8 & 6 \\ 5 & 7 \end{vmatrix}$

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

3. $\begin{vmatrix} -4 & 12 \\ 9 & 5 \end{vmatrix}$

4. $\begin{vmatrix} 16 & -10 \\ -8 & 5 \end{vmatrix}$

Evaluate each determinant using the cofactor expansion. Show your work.

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

6. $\begin{vmatrix} 2 & -3 & 5 \\ -4 & 6 & -2 \\ 4 & -1 & 6 \end{vmatrix}$

7. $\begin{vmatrix} 8 & 4 & 0 \\ -2 & -6 & -1 \\ 5 & -3 & 6 \end{vmatrix}$

8. $\begin{vmatrix} -5 & -3 & 4 \\ -2 & -4 & -3 \\ 8 & -2 & 4 \end{vmatrix}$

Evaluate each determinant using the diagonal rule. Show your work.

9. $\begin{vmatrix} 8 & 3 & 4 \\ 2 & 4 & 2 \\ 1 & 6 & 5 \end{vmatrix}$

10. $\begin{vmatrix} -4 & 3 & 0 \\ 1 & 5 & -2 \\ -1 & -8 & -3 \end{vmatrix}$

11. $\begin{vmatrix} 2 & -6 & -3 \\ 7 & 9 & -4 \\ -6 & 4 & 9 \end{vmatrix}$

12. $\begin{vmatrix} -5 & -6 & 7 \\ 4 & 0 & 5 \\ -3 & 8 & 2 \end{vmatrix}$

Draw the shape generated by the following linear transformation of the unit square. What is its area?

13. $\begin{bmatrix} -2 & 3 \\ 1 & 1 \end{bmatrix}$

What is its area of a parallelogram whose vertices have the following coordinates?

14. (0, 0), (3, −1), (6, 2), and (3, 3)