Algebra 2

1-06 Evaluate Determinants (12.3)

Determinant
 Number associated with matrices Symbolized by or
Determinant of 2×2 matrix
Multiply along the diagonal and the product of the diagonal.
$\begin{vmatrix} 2 & -1 \\ 3 & 4 \end{vmatrix}$
Determinant of 3×3 Matrix
Copy the first behind the matrix and then the products of the diagonals and the product of the diagonals.
1 2 3 4 5 6 7 8 9
Area of a Triangle
$Area = \pm \frac{1}{2} \begin{vmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{vmatrix}$
where x's and y's are the coordinates of the
Find the area of a triangle with vertices of (2, 4), (5, 1), and (2, −2)
Cramer's Rule
 Write the equations in form Make a matrix out of the
2×2 System

$$ax + by = e$$

$$cx + dy = f$$
 gives $x = \frac{\left| f \quad d \right|}{\left| c \quad d \right|}, y = \frac{\left| c \quad f \right|}{\left| c \quad b \right|}$

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3×3 System

- Same as _____ system
- The denominator is the determinant of the _____ matrix and the numerator is the _____ only with the column of the _____ you are solving for replaced with the _____.

2x - y + 6z = -46x + 4y - 5z = -7-4x - 2y + 5z = 9

667 #1, 3, 5, 9, 13, 15, 17, 21, 23, 29, 31, 33, 35, 39, 45, and Mixed Review = 20