Algebra 2 3.7

Evaluate determinants

Use Cramer's rule to solve systems of equations

second order determinant

third order determinant

Cramer's rule

coefficient matrix

variable matrix

whiteboards

$$\begin{vmatrix} 3 & 2 \\ +3 & 2 \end{vmatrix} \begin{matrix} 6 \\ 6-6=0 \\ 6 \end{matrix}$$

Quiz 3.5-3.6

0

GuidedPractice

1A. $\begin{vmatrix} -6 & -7 \\ 10 & 8 \end{vmatrix}$

1B. $\begin{vmatrix} 7 & 5 \\ 9 & -4 \end{vmatrix}$

GuidedPractice

Evaluate each determinant.

2A. $\begin{vmatrix} -5 & 9 & 4 \\ -2 & -1 & 5 \\ -4 & 6 & 2 \end{vmatrix}$

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

Cramer's rule system of 3 eq

5B.

$$6x + 5y + 2z = -1$$
$$-x + 3y + 7z = 12$$
$$5x - 7y - 3z = -52$$

$x = \frac{\cdot}{384}$ $y = \frac{\quad}{384}$ $z = \frac{\quad}{384}$

$= -249$

$30 - 294 + 15$

6 5 2 6 5

-1 3 7 -1 3 $135 - -249 = 384$

5 -7 -3 5 -7

$-54 + 175 + 14 = 135$

$2x + 5y = 7$

$3x - 2y = 5$

$\left(\frac{29}{19}, \frac{15}{19}\right)$

$\frac{-29}{-19}, \frac{-15}{-19}$

$\begin{vmatrix} 2 & 5 \\ 3 & -2 \end{vmatrix}$ $\begin{matrix} +15 \\ -4-15 \\ -19 \end{matrix}$

$x = \begin{vmatrix} 7 & 5 \\ 3 & -2 \end{vmatrix}$ $\begin{matrix} 15 \\ -14-15 \\ -19 \end{matrix}$

$y = \begin{vmatrix} 2 & 7 \\ 3 & 3 \end{vmatrix}$ $\begin{matrix} 21 \\ 6 \\ 6-21 \end{matrix}$