Algebra 3 Assignment # 3

Determinants, Cramer's Rule

(1) Evaluate each of the following determinants please.

(a) $\begin{vmatrix} 4 & 2 \\ 6 & 5 \end{vmatrix}$

(b) $\begin{vmatrix} -4 & -2 \\ 7 & 5 \end{vmatrix}$

(c) $\begin{vmatrix} 4 & 2 \\ -12 & -6 \end{vmatrix}$

(d) $\begin{vmatrix} 45 & 30 \\ -16 & 8 \end{vmatrix}$

(2) Solve each system using Cramer's Rule.

(a) $\begin{aligned} 7x + 5y &= 11 \\ 3x - 6y &= 13 \end{aligned}$

(b) $\begin{aligned} \tfrac{1}{2}x + \tfrac{3}{8}y &= 1 \\ \tfrac{2}{3}x + \tfrac{1}{2}y &= 3 \end{aligned}$

(3) Solve the following system of equations please.

$$\begin{vmatrix} x & y \\ 3 & 2 \end{vmatrix} = 2 \qquad \begin{vmatrix} x & -1 \\ y & 3 \end{vmatrix} = 14$$

(4) Evaluate the following determinant please.

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

Algebra 3 Assignment # 3

Answers

(1) **(a)** 8 **(b)** -6

(c) 0 **(d)** 840

(2) **(a)** $\left(\frac{131}{57}\ ,\ -\frac{58}{57}\right)$ **(b)** ϕ

(3) $(4\ ,\ 2)$

(4) 35