Name_____Daily Quiz Using Determinant to solve a 2x2 and a 3x3 system

Use Cramer's Rule and determinants to solve the given 2x2 and 3x3 systems, if not possible, then state why not

System 1 $\begin{aligned} 9x-7y&=46 \\ -5x+8y&=-42 \end{aligned}$

Show the work for the determinant of coefficient matrix	Show the work for the determinant of the replace x matrix	Show the work for the determinant of the replace y matrix
Show work State the value of x =_____ state the value of y = _____ Use matrix multiplication (and technology to confirm answers) This means $\begin{bmatrix} 9 & -7 \\ -5 & 8 \end{bmatrix}\begin{bmatrix} x \text{ answer} \\ y \text{ answer} \end{bmatrix}=\begin{bmatrix} 46 \\ -42 \end{bmatrix}$		

System 2 $\begin{aligned} 5x-3y&=13 \\ -20x+12y&=-52 \end{aligned}$

Show the work for the determinant of coefficient matrix	Show the work for the determinant of the replace x matrix	Show the work for the determinant of the replace y matrix
Show work State the value of x =_____ state the value of y = _____ Use matrix multiplication (and technology to confirm answers) This means $\begin{bmatrix} 5 & -3 \\ -20 & 12 \end{bmatrix}\begin{bmatrix} x \text{ answer} \\ y \text{ answer} \end{bmatrix}=\begin{bmatrix} 13 \\ -52 \end{bmatrix}$		

System 3
$$\begin{aligned} 2x+5y &= -18 \\ x+3y-2z &= -25 \\ 5x+y+4z &= 29 \end{aligned}$$

Show the coefficient matrix	Show the replace x matrix	Show the replace y matrix	Show the replace z matrix
Show the determinant of coefficient matrix (use technology)	Show the determinant of the replace x matrix (use technology)	Show the determinant of the replace y matrix (use technology)	Show the determinant of the replace z matrix (use technology)

State the value of x =_____state the value of y = _____state the value of z = _____

Use matrix multiplication (and technology to confirm answers) This means $\begin{bmatrix} 2 & 5 & 0 \\ 1 & 3 & -2 \\ 5 & 1 & 4 \end{bmatrix} \begin{bmatrix} x \text{ answer} \\ y \text{ answer} \\ z \text{ answer} \end{bmatrix} = \begin{bmatrix} -18 \\ -25 \\ 29 \end{bmatrix}$

System 3
$$\begin{aligned} 4x+1z &= 2 \\ 3x+2y+5z &= -16 \\ 6x+1.5z &= 3 \end{aligned}$$

Show the coefficient matrix	Show the replace x matrix	Show the replace y matrix	Show the replace z matrix
Show the determinant of coefficient matrix (use technology)	Show the determinant of the replace x matrix (use technology)	Show the determinant of the replace y matrix (use technology)	Show the determinant of the replace z matrix (use technology)

State the value of x =_____state the value of y = _____state the value of z = _____

Use matrix multiplication (and technology to confirm answers) This means $\begin{bmatrix} 4 & 0 & 1 \\ 3 & 2 & 5 \\ 6 & 2 & 1.5 \end{bmatrix} \begin{bmatrix} x \text{ answer} \\ y \text{ answer} \\ z \text{ answer} \end{bmatrix} = \begin{bmatrix} 2 \\ -16 \\ 3 \end{bmatrix}$