Student Name: _____   Score:

Determinants – Cramer's Rule

Identify the solutions using Cramer's rule:

$2x + 3y - 4z = 17$
$8x - 5y + 5z = -4$
$3x - 4y - 4z = -2$

$\Delta =$ ⬚ $\Delta x =$ ⬚ $\Delta y =$ ⬚ $\Delta z =$ ⬚

$x =$ ⬚ $y =$ ⬚ $z =$ ⬚

$2x + 5y - z = -7$
$-6x - y + 3z = -7$
$-7x + 4y + 4z = -16$

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$\Delta z =$ ⬚

$z =$ ⬚

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$x - y + 2z = 10$
$4x - y - 2z = 19$
$-2x + y + z = -8$

$\Delta z =$ ⬚

$z =$ ⬚

$3x + 3y - 7z = 11$
$-4x - 6y + z = -19$
$3x + 5y - 7z = 7$

$\Delta =$ ⬚ $\Delta x =$ ⬚ $\Delta y =$ ⬚ $\Delta z =$ ⬚

$x =$ ⬚ $y =$ ⬚ $z =$ ⬚

Answer key

Determinants – Cramer's Rule

Three Variables: ES2

$\Delta = 289$

$\Delta x = 578; \Delta y = 867; \Delta z = -289$

$x = \dfrac{\Delta x}{\Delta} = 2; \; y = \dfrac{\Delta y}{\Delta} = 3; \; z = \dfrac{\Delta z}{\Delta} = -1$

$\Delta = 14$

$\Delta x = 56; \Delta y = -28; \Delta$

$x = \dfrac{\Delta x}{\Delta} = 4; \; y = \dfrac{\Delta y}{\Delta} =$

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$\Delta = 5$

$\Delta x = 35; \Delta y = 15; \Delta z$

$x = \dfrac{\Delta x}{\Delta} = 7; \; y = \dfrac{\Delta y}{\Delta} =$

$\Delta = 50$

$\Delta x = 400; \Delta y = -100; \Delta z = 50$

$x = \dfrac{\Delta x}{\Delta} = 8; \; y = \dfrac{\Delta y}{\Delta} = -2; \; z = \dfrac{\Delta z}{\Delta} = 1$