Answer key

The method: Systems: elimination

Multiply so the y terms are opposites. Add the equations so y cancels.

$4x + 4y = 32$; $x - 3y = -12$ $x = 3, y = 5$

$12x + 12y = 96$ first equation × 3

$4x - 12y = -48$ second equation × 4

$16x = 48$ add the equations: y cancels

$x = 3$

$12 + 4y = 32$ put x = 3 into the first equation

$y = 5$

Problems 1 and 2 worked out · Version 0A

$-3x + y = 9$; $5x + 3y = -29$ $x = -4, y = -3$

$-9x + 3y = 27$ first equation × 3

$-5x - 3y = 29$ second equation × −1

$-14x = 56$ add the equations: y cancels

$x = -4$

$12 + y = 9$ put x = −4 into the first equation

$y = -3$

$2x - 3y = 27$; $5x + y = 25$ $x = 6, y = -5$

$-2x + 3y = -27$ first equation × −1

$-15x - 3y = -75$ second equation × −3

$-17x = -102$ add the equations: y cancels

$x = 6$

$12 - 3y = 27$ put x = 6 into the first equation

$y = -5$

Systems: elimination · Version 0A

1) x = −4, y = −3 2) x = 6, y = −5 3) x = 1, y = 3
4) x = −6, y = −6 5) x = −1, y = −4
6) x = −1, y = −5 7) x = −6, y = 0 8) x = 0, y = 1