Name: _____

A.REI.C.6: Solving Linear Systems 3

1 Which value is *not* contained in the solution of the system shown below?

$$a + 5b - c = -20$$

$$4a - 5b + 4c = 19$$

$$-a - 5b - 5c = 2$$

1) -2
2) 2
3) 3
4) -3

2 Solve the following system of equations algebraically for all values of x, y, and z:

$$x + 3y + 5z = 45$$

$$6x - 3y + 2z = -10$$

$$-2x + 3y + 8z = 72$$

3 Solve the following system of equations algebraically for all values of x, y, and z:

$$x + y + z = 1$$

$$2x + 4y + 6z = 2$$

$$-x + 3y - 5z = 11$$

A.REI.C.6: Solving Linear Systems 3
Answer Section

1 ANS: 2

Combining (1) and (3): $-6c = -18$ Combining (1) and (2): $5a + 3c = -1$ Using (3): $-(-2) - 5b - 5(3) = 2$

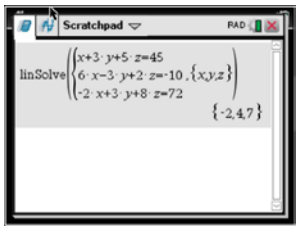
$c = 3$ $5a + 3(3) = -1$ $2 - 5b - 15 = 2$

$5a = -10$ $b = -3$

$a = -2$

REF: 081623aii

2 ANS:



$6x - 3y + 2z = -10$ $x + 3y + 5z = 45$ $4x + 10z = 62$ $4x + 4(7) = 20$

$-2x + 3y + 8z = 72$ $6x - 3y + 2z = -10$ $4x + 4z = 20$ $4x = -8$

$4x + 10z = 62$ $7x + 7z = 35$ $6z = 42$ $x = -2$

$4x + 4z = 20$ $z = 7$

$6(-2) - 3y + 2(7) = -10$

$-3y = -12$

$y = 4$

REF: spr1510aii

3 ANS:

$x + y + z = 1$ $2x + 2y + 2z = 2$ $-2z - z = 3$ $y - (-1) = 3$ $x + 2 - 1 = 1$

$-x + 3y - 5z = 11$ $2x + 4y + 6z = 2$ $-3z = 3$ $y = 2$ $x = 0$

$4y - 4z = 12$ $2y + 4z = 0$ $z = -1$

$y - z = 3$ $y + 2z = 0$

$y = -2z$

REF: 061733aii