Infinite Algebra 1

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5) The senior classes at High School A and High School B planned separate trips to th
senior class at High School A rented and filled 2 vans and 1 bus with 59 students.
and filled 6 vans and 12 buses with 474 students. Each van and each bus carried th
students. Find the number of students in each van and in each bus.

Let x = the number of students in each van.
Then let y = the number of students in each bus

① $2x+1y=59$

② $6x+12y=474$

$-2x \quad -2x$

$2x+y=59$

$y=-2x+59$

$6x+12(-2x+59)=474$

$6x-24x+708=474$

$-708 \quad -708$

$-18x+708=474$

$-18x=-234$

$\frac{-18x}{-18}=\frac{-234}{-18}$

$x=13$

$2x+1y=59$

$-26(13)+1y=59$

$26+26$

$2(13)+y=59$

$y=33$

There will be 13 students in each van and 33 students in each bus.

6) Shayna and Jessica are selling fruit for a school fundraiser. Customers can buy sm and large boxes of oranges. Shayna sold 8 small boxes of oranges and 13 large box total of $336. Jessica sold 4 small boxes of oranges and 4 large boxes of oranges f Find the cost each of one small box of oranges and one large box of oranges.

Shayna
8 small
13 large
336

Jessica
4 S
4 L
128

S + S = 2

L - L

$128

∴ small box $16
Large box $16

$8x + 13y = 336$ + $8x + 8y = 256$ (x 2)

$4x + 4y = 128$ (x -2)

$-8x - 8y = -256$

$5y = 80$

$y = 16$

$8x + 13y = 336$
$8x + 13(16) = 336$
$8x + 208 = 336$
$8x = 336 - 208$
$\frac{8x}{8} = \frac{128}{8}$
$x = 16$

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Solve each system by elimination.

(3, -3)

① ② 7) $2x - 5y = 21$ (×3)
$3x - 7y = 30$ (−2)

$6x - 15y = 63$
$-6x + 14y = -60$
$-y = 3$
$-1 \quad -1$
$y = -3$

$2x - 5(-3) = 21$
$2x + 15 = 21 - 15$
$\frac{2x}{2} = \frac{6}{2}$
$x = 3$

Check

L.S.	R.S.
$3x - 7y$	30
$3(3) - 7(-3)$	∴ P of I
$9 + 21$	$= (3, -3)$
30	

Solve each system by elimination.

8) $7x + 7y = 28$
$-8x + 3y = -10$

$\times 8$
$\times 7$

$\rightarrow 56x + 56y = 224$
$\rightarrow -56x + 21y = -70$

$-8x + 3y = -10$

$-8x + 3(2) = -10$
$-6 \quad -6$
$-8x + 6 = -10$
$-8x = -16$
$-8 \quad -8$
$x = 2$

$77y = 154$
$77 \quad 77$
$y = 2$