Solve each system by elimination.

← adding + subtraction method

1) $3x + 2y = -9$ (1)

$+\ -6x - 2y = 18$ (2)

$-3x = 9$

$\frac{-3x}{-3} = \frac{9}{-3}$

$x = -3$

Substitute in (1)

$3x + 2y = -9$

$3(-3) + 2y = -9$

$-9 + 2y = -9$

$+9 \quad +9$

$2y = 0$

$y = 0$

Check in (2)

L.S.	R.S.
$-6x - 2y$	18
$-6(-3) - 2(0)$	
$18 - 0$	
18	

Solution set $(-3, 0)$

Solve each system by elimination.

2) $-4x - 2y = 10$
$-3x + 2y = 4$

$-7x = 14$

$\frac{-7x}{-7} = \frac{14}{-7}$

$x = -2$

$-4(-2) - 2y = 10$

$8 - 2y = 10$

$-8 \quad -8$

$-2y = 2$

$\frac{-2y}{-2} = \frac{2}{-2}$

$y = -1$

③ check

LS	RS
$-3x + 2y$	4
$-3(-2) + 2(-1)$	
$6 - 2$	
4 ✓	

∴ I $(-2, -1)$

Solve each system by elimination.

3) $x + 5y = 8$

$+\ 5x - 5y = 10$

$\frac{6x}{6} = \frac{18}{6}$

$x = 3$

Substitute

$3 + 5y = 8$

$\frac{5y}{5} = \frac{5}{5}$

$y = 1$

check

L	R
$5x - 5y$	10
$5(3) - 5(1)$	
$15 - 5$	
10	

POI (3, 1)

Solve each system by elimination.

(1)

5) $4x + 6y = -6$

(2) $-x + 7y = -7$

$\rightarrow 4x + 6y = -6$

$(\times 4) + -4x + 28y = -28$

$34y = -34$

$\frac{34y}{34} = \frac{-34}{34}$

$y = -1$

Find x in (1)

$4x + 6y = -6$

$4x + 6(-1) = -6$

$+6 \quad +6$

$4x - 6 = -6$

$\frac{4x}{4} = \frac{0}{4}$

$x = 0$

check in (2)

L.S.

$-x + 7y$

$-0 + 7(-1)$

-7

R.S.

-7

(0, -1)

Solve each system by elimination.

7) $12x + 5y = -26$
$6x + 3y = -12$

$(x-2)$

$12x + 5y = -26$
$-12x - 6y = 24$

$-1y = -2$

$\frac{-1y}{-1} = \frac{-2}{-1}$

$y = 2$