DAY 4 – Elimination Method

Solve the systems and check the solutions.

A. $x+4y-5=0$
$x+2y=7$

$1x+4y=5$
$-1x-2y=-7$
$0x+2y=-2$
$y=-1$

$x+4y=5$
$x+2y=7$
$1x+4y=5$
$-2x-4y=-14$
$-1x+0y=-9$
$-1x=-9$
$x=9$

∴ POI $(9,-1)$

check in ①
$x+4y-5=0$
$9+4(-1)-5$
$9-4-5$
0 ✓

B. $x-3y+2=0$
$5y+2x=7$

$x-3y=-2$
$2x+5y=7$
$-2x+6y=4$
$2x+5y=7$
$0x+11y=11$
$11y=11$
$y=1$

$x-3y=-2$
$2x+5y=7$
$5x-15y=-10$
$6x+15y=21$
$11x+0y=11$
$11x=11$
$x=1$

∴ POI $(1,1)$

check in ②
$5y+2x=7$
$5(1)+2(1)$
$5+2$
7 ✓

C. $2x+y=3$
$-3y+4x=1$

$2x+y=3$
$4x-3y=1$
$-4x-2y=-6$
$4x-3y=1$
$0x-5y=-5$
$-5y=-5$
$y=1$

$2x+y=3$
$4x-3y=1$
$6x+3y=9$
$4x-3y=1$
$10x+0y=10$
$10x=10$
$x=1$

∴ POI $(1,1)$

check in ①
$2x+y=3$
$2(1)+1$
3 ✓

8×3
24

Solve the systems and check the solutions.

D. $2x+3y+1=0$, $y+x=1$

$2x+3y=-1$
$x+y=1$ (·-2 ·-2 ·-2)

$2x+3y=-1$
$-2x-2y=-2$

$0x+1y=-3$

$y=-3$

$2x+3y=-1$
$x+y=1$ (·-3 ·-3 ·-3)

$2x+3y=-1$
$-3x-3y=-3$

$-1x+0y=-4$

$-1x=-4$

$x=4$

∴ POI $(4,-3)$

check in (2): $y+x=1$

$-3+4$

1 ✓

E. $6x+5y=7$, $x-3=y$

$6x+5y=7$
$x-y=3$ (·-6 ·-6 ·-6)

$6x+5y=7$
$-6x+6y=-18$

$0x+11y=-11$

$y=-1$

$6x+5y=7$
$x-y=3$ (·5 ·5 ·5)

$6x+5y=7$
$5x-5y=15$

$11x+0y=22$

$11x=22$

$x=2$

∴ POI $(2,-1)$

check (1): $6x+5y=7$

$6(2)+5(-1)$

$12-5$

7 ✓

F. $x-3y=5$, $2y+7x=12$

$x-3y=5$ (·-7 ·-7 ·-7)
$7x+2y=12$

$-7x+21y=-35$
$7x+2y=12$

$0x+23y=23$

$y=1$

$x-3y=5$ (·2 ·2 ·2)
$7x+2y=12$ (·3 ·3 ·3)

$2x-6y=10$
$21x+6y=36$

$23x+0y=46$

$23x=46$

$x=2$

∴ POI $(2,1)$

check in (1): $x-3y=5$

$2-3(1)$

$2+3$

5 ✓