Mathematics 10D

1.6 – Solving POI by Elimination

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$$7x + 10y = -19$$
$$+\ -6x - 10y = 12$$

$$x = -7$$

Make sure that both equations are $X + Y = \#$

$+49$ $+49$

y: $7(-7) + 10y = -19$

$10y = 30$

$y = 3$

∴ PoI is $(-7, 3)$

$$4x + 5y = -29$$
$$-(4x + 4y = -28)$$

$$y = -1$$

x: $4x + 5(-1) = -29$ (+5 to both sides)

$4x = 24$

$x = 6$

$\therefore$ POI : $(6, -1)$

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

$-20x + 5y = 15$

$20x - 4y = -8$

$+\ -20x + 5y = 15$

$y = 7$

x: $10x - 2(7) = -4$ $^{+14}$ $^{+14}$

$10x = 10$

$x = 1$

$\therefore$ POI is $(1, 7)$

$5(-6x + 8y = -2)$

$8(-9x + 5y = -17)$

$-30x + 40y = -10$

$-(-72x + 40y = -136)$

$42x = 126$

$x = 3$

y: $-6(3) + 8y = -2$ (+18 to both sides)

$8y = 16$

$y = 2$

$\therefore$ POI is $(3, 2)$

$22 = -2x + 10y$

$-27y + 63 + 9x = 0$

1. Setup properly

$9(2x - 10y = -22)$

$2(9x - 27y = -63)$

$18x - 90y = -198$

$-(18x - 54y = -126)$

$-36y = -72$

$\frac{-36y}{-36} = \frac{-72}{-36}$

$y = 2$

$x: 22 = -2x + 10(2)$

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

$-1 = x$

$\therefore$ POI is $(-1, 2)$