① $4x - y = -5$
$-3x + y = 5$
$x = 0$
$(0, 5)$

$-3(0) + y = 5$
$y = 5$

② $4x - 4y = -24$
$-4x + 6y = 26$
$2y = 2$
$y = 1$
$(-5, 1)$

$4x - 4(1) = -24$
$4x = -20$
$x = -5$

③ $-2x - y = 5$
$8x + y = -5$
$6x = 0$
$x = 0$
$(0, -5)$

$8(0) + y = -5$
$y = -5$

④ $5x - 5y = 15$
$-8x + 3y = -21$
$-2y = -6$
$y = 3$
$(6, 3)$

$5x - 5(3) = 15$
$5x = 30$
$x = 6$

⑤ $3x - y = 7$
$5x + y = 25$
$8x = 32$
$x = 4$
$(4, 5)$

$3(4) - y = 7$
$-y = -5$
$y = 5$

⑥ $-5x + 3y = 14$
$7x - 3y = -22$
$2x = -8$
$x = -4$
$(-4, -2)$

$-5(-4) + 3y = 14$
$3y = -6$
$y = -2$

⑦ $x - y = -9$ → $-x + y = 9$
$x + 5y = -15$
$6y = -6$
$y = -1$

mult through top or bottom by -1

$x + 5(-1) = -15$
$x = -10$
$(-10, -1)$

⑧ $-5x-4y=5$
$-5x-4y=5$ > same equations

Infinite Solutions

(2, -5) ⑨ $7x+5y=-11$
$-1(x+5y=-23)$

$7x+5y=-11$
$-x-5y=23$
$6x=12$
$x=2$

$7(2)+5y=-11$
$5y=-25$
$y=-5$

(1, -1) ⑩ $-9x-5y=-4 \rightarrow 9x+5y=4$
$6x-5y=11$

$6x-5y=11$
$15x=15$
$x=1$

$6(1)-5y=11$
$-5y=5$
$y=-1$

(-1, 1) ⑪ $-4x+9y=13 \rightarrow 4x-9y=-13$
$-x+9y=10$

$-x+9y=10$
$3x=-3$
$x=-1$

$-4(4)+9y=13$
$9y=9$
$y=1$

(8, -1) ⑫ $-x-y=-7$
$-3x-y=-23$

$x+y=7$
$-3x-y=-23$
$-2x=-16$
$x=8$

$-8-y=-7$
$-y=1$
$y=-1$

(-3, -2) ⑬ $-16x+9y=30$
$3(-8x-3y=30)$

$-16x+9y=30$
$-24x-9y=90$
$-40x=120$
$x=-3$

$-8(-3)-3y=30$
$-3y=6$
$y=-2$

(-4, 5) (14) $-3(-4x-2y=26) \rightarrow 12x+6y=-78$ $-4x-2(-5)=26$

$-12x+10y=-2$ $-12x+10y=-2$

$16y=-80$ $-4x=16$

$y=-5$ $x=-4$

IS (15) $-12x+8y=24$ $-12x+8y=24$ > Infinite

$2(6x-4y=-12)$ $12x-8y=-24$

(-1, -2) (16) $-10x+5y=0$ $-10x+5y=0$ $-10x+5(-2)=0$

$2(5x-2y=-1)$ $10x-4y=-2$ $-10x=10$

$y=-2$ $x=-1$

(-1, -1) (17) $-3(-4x-5y=9) \rightarrow 12x+15y=-27$ $-4x-5(-1)=9$

$-12x+8y=4$ $-12x+8y=4$ $-4x=4$

$23y=-23$ $x=-1$

$y=-1$

(-3, 3) (18) $3(x+9y=24)$ $3x+27y=72$ $x+9(3)=24$

$-3x+5y=24$ $-3x+5y=24$ $x=-3$

$32y=96$

$y=3$

(-1, -1) (19) $2(6x+9y=-15) \rightarrow 12x+18y=-30$ $6x+9(-1)=-15$

$-3(4x+10y=-14) \rightarrow -12x-30y=42$ $6x=-6$

$-12y=12$ $x=-1$

$y=-1$

(10,6) ⑳ $3(3x-4y=-24) \rightarrow 9x-12y=-72$
$4(10x+3y=18) \rightarrow \underline{40x+12y=72}$
$49x=0$
$x=0$

$3(0)-4y=-24$
$-4y=-24$
$y=6$

(1,4) ㉑ $2(10x+5y=30) \rightarrow -20x-10y=-60$
$5(-7x+2y=1) \rightarrow \underline{-35x+10y=5}$
$-55x=-55$
$x=1$

$10(1)+5y=30$
$5y=20$
$y=4$

(1,0) ㉒ $3(-8x+7y=-8) \rightarrow 24x-21y=24$
$4(-6x-2y=-6) \rightarrow \underline{-24x-8y=-24}$
$-29y=0$
$y=0$

$-8x+7(0)=-8$
$-8x=-8$
$x=1$

(-1,-3) ㉓ $2(5x+3y=-14) \rightarrow -10x-6y=28$
$3(2x+2y=-8) \rightarrow \underline{6x+6y=-24}$
$-4x=4$
$x=-1$

$5(-1)+3y=-14$
$3y=-9$
$y=-3$

(2,7) ㉔ $3(-10x+5y=15) \rightarrow -30x+15y=45$
$5(4x-3y=-13) \rightarrow \underline{20x-15y=-65}$
$-10x=-20$
$x=2$

$-10(2)+5y=15$
$-20+5y=15$
$5y=35$
$y=7$

Not on same x or y side ㉕ $-6+y=-7x \rightarrow 7x+y=6$
$y+7x-12=0 \rightarrow \underline{7x+y=12}$
$0=18$
NS

Rearrange!

(-1, 10) (26) $y-4x=14 \rightarrow -4x+y=14$ $y-4(-1)=14$

$4-6x=y$ $\underline{-6x-y=-4}$ $y=10$

$-10x=10$

$x=-1$

(-1, -2) (27) $3y+1=5x \rightarrow 2(5x-3y=1)$ $10x-6y=2$ $3(-2)+1=5x$

$-14y=38+10x \rightarrow -10x-14y=38$ $\underline{-10x-14y=38}$ $-5=5x$

$-20y=40$ $-1=x$

$y=-2$

(7, -9) (28) $-13=-7x-4y \rightarrow -7x-4y=-13 \rightarrow -7x-4y=-13$ $-13=-7(7)-4y$

$-9x-4y=-27 \xrightarrow{-1}(-9x-4y=-27) \rightarrow \underline{9x+4y=27}$ $36=-4y$

$2x=14$ $-9=y$

$x=7$

(1, 3) (29) $2+\frac{2}{5}x=\frac{4}{5}y \rightarrow -\frac{2}{5}x+\frac{4}{5}y=2 \rightarrow \frac{-2}{5}x+\frac{4}{5}y=2 \rightarrow \frac{10}{5}$ $-x=-7+2(3)$

$-x=-7+2y \xrightarrow{-2/5}(-x-2y=-7) \rightarrow \underline{\frac{2}{5}x+\frac{4}{5}y=\frac{14}{5}}$ $-x=-1$

$\frac{5}{8}\cdot\frac{8}{5}y=\frac{24}{5}\cdot\frac{5}{8}$ $x=1$

$y=3$

(-10, 5) (30) $y=-x-15 \rightarrow 2(x+y=-15) \rightarrow 2x+2y=30$ $y=-(-10)-15$

$\frac{10}{3}-\frac{4}{3}x=-2y \rightarrow \frac{4}{3}x-2y=\frac{-10}{3} \rightarrow \underline{\frac{4}{3}x-2y=\frac{-10}{3}}$ $y=10-15$

$\frac{3}{10}\cdot\frac{10}{3}x=\frac{-100}{3}\cdot\frac{3}{10}$ $y=-5$

$x=-10$