Solve each system using Elimination. Show all work!!

10. $4x - y = 2$
$3x + y = 12$

$7x = 14$
$x = 2$

$3(2) + y = 12$
$6 + y = 12$
$-6 \quad -6$
$y = 6$

$(2, 6)$

11. $2x + 3y = -2$
$-1(5x + 3y = -14)$

$2x + 3y = -2$
$-5x - 3y = 14$

$\frac{-3x}{-3} = \frac{12}{-3}$
$x = -4$

$2(-4) + 3y = -2$
$-8 + 3y = -2$
$+8 \quad +8$
$3y = 6$
$y = 2$

$(-4, 2)$

12. $9x + 2y = 5$
$2(3x - y = -10)$

$9x + 2y = 5$
$6x - 2y = -20$

$15x = -15$
$x = -1$

$9(-1) + 2y = 5$
$-9 + 2y = 5$
$+9 \quad +9$
$2y = 14$
$y = 7$

$(-1, 7)$

13. $x + 8y = 0$
$-x + y = 14$

$7y = -14$
$y = -2$

$x + (-2) = 14$
$+2 \quad +2$
$x = 16$

$(16, -2)$

14. $3(2x + 4y = 12)$
$2(-3x + 3y = 63)$

$6x + 12y = 36$
$-6x + 6y = 126$

$\frac{18y}{18} = \frac{162}{18}$
$y = 9$

$2x + 4(9) = 12$
$2x + 36 = 12$
$-36 \quad -36$
$2x = -24$
$x = -12$

$(-12, 9)$

15. $3(-x + 4y = -24)$
$3x - 12y = 72$

$-3x + 12y = -72$
$3x - 12y = 72$

$0 = 0$ True

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16. $5(10x - 2y = 22)$
$2(-25x + 5y = 25)$

$50x - 10y = 110$
$-50x + 10y = 50$

False $0 \neq 160$

no Solutions

17. $-2(4y - 3x = 72)$
$8y - 6x = 64$

$-8y + 6x = -144$

$0 \neq -80$ False

No Sol

18. $x = 8$
$y = -2$

$(8, -2)$