Riddle ws.

"Why Does the President Put Vegetables in His Blender?"

① $y = 2x = 2(4) = 8$

$x + y = 12$

$(4, 8)$

$x + 2x = 12$

$3x = 12$

$x = 4$

② $x = 3y - 1 = 3(2) - 1 = 5$

$x + 2y = 9$

$(5, 2)$

$3y - 1 + 2y = 9$

$5y - 1 = 9$

$5y = 10$

$y = 2$

③ $y = 2x - 5 = 2(1) - 5 = -3$

$4x - y = 7$

$4x - (2x - 5) = 7$

$4x - 2x + 5 = 7$

$2x + 5 = 7$

$2x = 2$

$x = 1$

$(1, -3)$

④ $2x - 3y = 12$

$x = 4y + 1 = 4(2) + 1 = 8 + 1 = 9$

$2(4y + 1) - 3y = 12$

$8y + 2 - 3y = 12$

$5y + 2 = 12$

$5y = 10$

$y = 2$

$(9, 2)$

⑤ $y = -x + 5 = -6 + 5 = -1$

$x - 4y = 10$

$(6, -1)$

$x - 4(-x + 5) = 10$

$x + 4x - 20 = 10$

$5x - 20 = 10$

$5x = 30$

$x = 6$

⑥ $x - y = 2$

$x = y + 2$

$x = 3 + 2 = 5$

$4x - 3y = 11$

$4(y + 2) - 3y = 11$

$4y + 8 - 3y = 11$

$y + 8 = 11$

$y = 3$

$(5, 3)$

HE IS HOPING FOR WHIRLED PEAS

(7) $-2x+3y=14$ $x+2y=7$

$x=7-2y$

$-2(7-2y)+3y=14$

$-14+4y+3y=14$

$7y-14=14$

$+14 \quad +14$

$\frac{7y}{7}=\frac{28}{7}$

$y=4$

$x=7-2(4)$

$x=7-8$

$x=-1$

$(-1,4)$

(8) $6x-y=-4$ $2x+2y=15$

$\frac{-y}{-1}=\frac{-6x-4}{-1}$

$y=6x+4$

$2x+2(6x+4)=15$

$y=6(\frac{1}{2})+4$

$2x+12x+8=15$

$y=3+4$

$14x+8=15$

$y=7$

$-8 \quad -8$

$(\frac{1}{2},7)$

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

$x=\frac{1}{2}$

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

$x=1-y$

$2(1-y)-y=-2$

$2-2y-y=-2$

$2-3y=-2$

$-2 \quad -2$

$\frac{-3y}{-3}=\frac{-4}{-3}$

$y=\frac{4}{3}$

$x=1-\frac{4}{3}$

$x=-\frac{1}{3}$

$(-\frac{1}{3},\frac{4}{3})$

(10) $5x-3y=-11$ $x-2y=2$

$x=2+2y$

$5(2+2y)-3y=-11$

$10+10y-3y=-11$

$10+7y=-11$

$7y=-21$

$y=-3$

$x=2+2(-3)$

$x=2-6$

$x=-4$

$(-4,-3)$

(11) $x-y=3$ $6x+4y=13$

$x=3+y$

$6(3+y)+4y=13$

$18+6y+4y=13$

$18+10y=13$

$-18 \quad -18$

$10y=-5$

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

$x=3-\frac{1}{2}$

$x=\frac{6}{2}-\frac{1}{2}$

$x=\frac{5}{2}$

$(\frac{5}{2},-\frac{1}{2})$

(12) $2x-y=16$ $-x+2y=-8$

$\frac{-y}{-1}=\frac{-2x+16}{-1} \quad -1$

$y=2x-16$

$-x+2(2x-16)=-8$

$-x+4x-32=-8$

$3x-32=-8$

$+32 \quad +32$

$3x=24$

$x=8$

$y=2(8)-16$

$y=16-16$

$y=0$

$(8,0)$

Why Does the President Put Vegetables in His Blender?

Solve each system of equations below by the substitution method. Find the solution in the nearest answer column and notice the two letters next to it. Print these letters in the two boxes at the bottom of the page that contain the number of that exercise.

① $y = 2x$
$x + y = 12$ (4,8)

② $x = 3y - 1$
$x + 2y = 9$ (5,2)

③ $y = 2x - 5$
$4x - y = 7$ (1,-3)

④ $2x - 3y = 12$
$x = 4y + 1$ (9,2)

⑤ $y = -x + 5$
$x - 4y = 10$ (6,-1)

⑥ $x - y = 2$
$4x - 3y = 11$ (5,3)

⑦ $-2x + 3y = 14$
$x + 2y = 7$ (-1,4)

⑧ $6x - y = -4$
$2x + 2y = 15$ $(\frac{1}{2}, 7)$

⑨ $x + y = 1$
$2x - y = -2$ $(-\frac{1}{3}, \frac{4}{3})$

⑩ $5x - 3y = -11$
$x - 2y = 2$ (-4,-3)

⑪ $x - y = 3$
$6x + 4y = 13$ $(\frac{5}{2}, -\frac{1}{2})$

⑫ $2x - y = 16$
$-x + 2y = -8$ (8,0)

Answers 1–6:

(4, 2)	LD
(6, −1)	NG
(1, 2)	TR
(4, 8)	HE
(1, −3)	HO
(6, −3)	NT
(5, 3)	FO
(9, 2)	PI
(7, 3)	TH
(5, 2)	IS

Answers 7–12:

$(\frac{1}{2}, -3)$	IN
$(8, -\frac{1}{2})$	VE
$(-\frac{1}{3}, \frac{4}{3})$	RL
(8, 0)	AS
(−3, 4)	TE
$(\frac{1}{2}, 7)$	HI
$(\frac{5}{2}, \frac{4}{3})$	LO
(−1, 4)	RW
$(\frac{5}{2}, -\frac{1}{2})$	PE
(−4, −3)	ED

1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12
H	E	I	S	H	O	P	I	N	G	F	O	R	W	H	I	R	L	E	D	P	E	A	S