DID YOU HEAR ABOUT the antelope who was getting dressed when he was trampled by a herd of buffalo?

Well,	1 AS	2 FAR	3 AS	4 WE	5 KNOW	6 THIS
7 WAS	8 THE	9 FIRST	10 SELF	11 DRESSED	12 STAMPED	13 ANTELOPE

Solve each system of equations by the substitution method. Write the word next to the correct answer in the box containing the exercise number.

1. $y = 3x$
$5x + 2y = 44$
(4, 12)

2. $x = 5y - 1$
$x + 2y = 13$
(9, 2)

3. $y = 2x + 7$
$3x - y = -9$
(-2, 3)

4. $-2x + 3y = 11$
$x = 4y - 3$
(-7, -1)

5. $y = 6x - 5$
$y = -x + 9$
(2, 7)

6. $-3x + y = 7$
$5x + 2y = 3$
(-1, 4)

7. $x - y = 11$
$3x + 10y = -6$
(8, -3)

8. $-4x + y = 4$
$2x + 2y = 13$
$(\frac{1}{2}, 6)$

9. $x + y = 1$
$5x - 4y = -7$
$(-\frac{1}{3}, \frac{4}{3})$

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

11. $x + 9y = -1$
$2x + 4y = 5$
$(\frac{7}{2}, -\frac{1}{2})$

12. $-5x + y = 35$
$3x + 2y = -21$
(-7, 0)

13. A math test is worth 100 points and has 30 problems. Each problem is worth either 3 points or 4 points. How many 4-point problems are there?
10 4-point questions

$(-2, 2)$ OFTEN
$(\frac{1}{2}, -3)$ RANGE
$(9, 2)$ FAR
$(-7, 0)$ STAMPED
$(2, 7)$ KNOW
$(-\frac{1}{3}, \frac{4}{3})$ FIRST
$(4, 12)$ AS
$(-1, -3)$ HOME
$(8, -3)$ WAS
$(\frac{7}{2}, -\frac{1}{2})$ DRESSED
14 WESTERN
$(-7, -1)$ WE
$(-\frac{1}{3}, -1)$ BIGGEST
$(-1, 4)$ THIS
10 ANTELOPE
$(-4, -3)$ SELF
$(-2, 3)$ AS
$(2, 1)$ COWBOYS
$(\frac{1}{2}, 6)$ THE
$(-7, -\frac{1}{2})$ DEFENSE

Did You Hear About the Antelope Who Was Getting Dressed When He Was Trampled By a Herd of Buffalo?

1. $\begin{cases} y = 3x \\ 5x + 2y = 44 \end{cases}$

$5x + 2(3x) = 44$
$5x + 6x = 44$
$\frac{11x}{11} = \frac{44}{11}$
$x = 4$

$y = 3(4) = 12$
$\boxed{(4, 12)}$

2. $\begin{cases} x = 5y - 1 \\ x + 2y = 13 \end{cases}$

$(5y - 1) + 2y = 13$
$7y - 1 = 13$
$+1 \quad +1$
$\frac{7y}{7} = \frac{14}{7}$
$y = 2$

$x = 5(2) - 1$
$x = 9$
$\boxed{(9, 2)}$

3. $\begin{cases} y = 2x + 7 \\ 3x - y = -9 \end{cases}$

$3x - (2x + 7) = -9$
$3x - 2x - 7 = -9$
$x - 7 = -9$
$+7 \quad +7$
$x = -2$

$y = 2(-2) + 7$
$= -4 + 7$
$= 3$
$\boxed{(-2, 3)}$

4. $\begin{cases} -2x + 3y = 11 \\ x = 4y - 3 \end{cases}$

$-2(4y - 3) + 3y = 11$
$-8y + 6 + 3y = 11$
$-5y + 6 = 11$
$-6 \quad -6$
$\frac{-5y}{-5} = \frac{5}{-5}$
$y = -1$
$x = (4)(-1) - 3$
$x = -4 - 3 = -7$
$\boxed{(-7, -1)}$

5. $\begin{cases} y = 6x - 5 \\ y = -x + 9 \end{cases}$

$6x - 5 = -x + 9$
$+x \quad +x$
$7x - 5 = 9$
$+5 \quad +5$
$\frac{7x}{7} = \frac{14}{7}$
$x = 2$
$y = -(2) + 9$
$= 7$
$\boxed{(2, 7)}$

6. $\begin{cases} -3x + y = 7 \\ 5x + 2y = 3 \end{cases}$
Rewrite: $y = 7 + 3x$

$5x + 2(7 + 3x) = 3$
$5x + 14 + 6x = 3$
$-14 \quad -14$
$\frac{11x}{11} = \frac{-11}{11}$
$x = -1$
$-3(-1) + y = 7$
$3 + y = 7$
$\boxed{(-1, 4)}$

7. $\begin{cases} x - y = 11 \\ 3x + 10y = -6 \end{cases}$
Rewrite: $x = 11 + y$

$3(11 + y) + 10y = -6$
$33 + 3y + 10y = -6$
$-33 \quad -33$
$\frac{13y}{13} = \frac{-39}{13}$
$y = -3$
$x - (-3) = 11$
$x + 3 = 11$
$x = 8$
$\boxed{8, -3}$

8. $\begin{cases} -4x + y = 4 \\ 2x + 2y = 13 \end{cases}$
Rewrite: $y = 4 + 4x$

$2x + 2(4 + 4x) = 13$
$2x + 8 + 8x = 13$
$-8 \quad -8$
$\frac{10x}{10} = \frac{5}{10}$
$x = \frac{1}{2}$
$-4(\frac{1}{2}) + y = 4$
$-2 + y = 4$
$y = 6$
$\boxed{(\frac{1}{2}, 6)}$

9. $\begin{cases} x + y = 1 \\ 5x - 4y = -7 \end{cases}$
Rewrite: $x = 1 - y$

$5(1 - y) - 4y = -7$
$5 - 5y - 4y = -7$
$-5 \quad -5$
$\frac{-9y}{-9} = \frac{-12}{-9}$
$y = \frac{4}{3}$
$x + \frac{4}{3} = 1$
$-\frac{4}{3} \quad -\frac{4}{3}$
$x = -\frac{1}{3}$
$\boxed{(-\frac{1}{3}, \frac{4}{3})}$

10. $\begin{cases} -5x+3y=11 \\ x-2y=2 \end{cases}$

Reconte: $x=2+2y$

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

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

$+10 \qquad +10$

$-7y=21$

$\frac{-7y}{-7}=\frac{21}{-7}$

$y=-3$

$x-2(-3)=2$

$x+6=2$

$-6 \quad -6$

$x=-4$

$\boxed{(-4,-3)}$

11. $\begin{cases} x+9y=-1 \\ 2x+4y=5 \end{cases}$

Reconte: $x=-1-9y$

$2(-1-9y)+4y=5$

$-2-18y+4y=5$

$+2 \qquad +2$

$-14y=7$

$\frac{-14y}{-14}=\frac{7}{-14}$

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

$2x+4(-\frac{1}{2})=5$

$2x-2=5$

$+2 \quad +2$

$\frac{2x}{2}=\frac{7}{2}$

$x=\frac{7}{2}$

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

12. $\begin{cases} -5x+y=35 \\ 3x+2y=-21 \end{cases}$

Reconte: $y=35+5x$

$3x+2(35+5x)=-21$

$3x+70+10x=-21$

$-70 \qquad -70$

$\frac{13x}{13}=\frac{-91}{13}$

$x=-7$

$-5(-7)+y=35$

$35+y=35$

$-35 \qquad -35$

$y=0$

$\boxed{(-7,0)}$

13. Let x = # of 3 point questions

Let y = # of 4 point questions

$\begin{cases} x+y=30 \\ 3x+4y=100 \end{cases}$

Reconte: $x=30-y$

$3(30-y)+4y=100$

$90-3y+4y=100$

$-90 \qquad -90$

$y=10$

There are 10 four point questions.