Intermediate Algebra Skill

<u>Solving 2 x 2 Linear System by Substitution</u>

Solve the following Linear Systems of Equations by Substitution:

1) $\begin{cases} 3x+5y=3 \\ x=8-4y \end{cases}$

2) $\begin{cases} 3x-6=y \\ 9x-2y=3 \end{cases}$

3) $\begin{cases} 4x+y=1 \\ x-2y=16 \end{cases}$

4) $\begin{cases} -3b+a=7 \\ 5a+6b=14 \end{cases}$

5) $\begin{cases} 5p+7q=1 \\ 4p-2q=16 \end{cases}$

6) $\begin{cases} 5x+3y=4 \\ x-4y=3 \end{cases}$

7) $\begin{cases} y-2x=1 \\ 2x-3=y \end{cases}$

8) $\begin{cases} 3y=x-2 \\ x=2+3y \end{cases}$

9) $\begin{cases} 2x-7y=9 \\ 7y-2x=-5 \end{cases}$

10) $\begin{cases} 3x+2y=-4 \\ 4x-y=13 \end{cases}$

11) $\begin{cases} 4x-y=-9 \\ 2x-3y=3 \end{cases}$

12) $\begin{cases} 3x+2y=9 \\ 5x+3y=13 \end{cases}$

13) $\begin{cases} 2x-3y=-16 \\ 2y-3x=24 \end{cases}$

14) $\begin{cases} 2x-5y=11 \\ 2y-5x=4 \end{cases}$

Answers to Solving 2 x 2 Linear System by Substitution

1) $(-4,3)$

2) $(-3,-15)$

3) $(2,-7)$

4) $(4,-1)$

5) $(3,-2)$

6) $\left(\frac{25}{23},\frac{-11}{23}\right)$

7) $\varnothing$

8) $\{(x,y)\,|\,x=2+3y\}$

9) $\varnothing$

10) $(2,-5)$

11) $(-3,-3)$

12) $(-1,6)$

13) $(-8,0)$

14) $(-2,-3)$