Solving Systems by Substitution Revisited

Solve each system by substitution.

1) \( y = x + 15 \)
   \( y = -2x - 9 \)

2) \(-8x + 5y = 0\)
   \( y = 6x + 22 \)

3) \(-8x + 3y = 9\)
   \( x + 3y = -18 \)

4) \(3x - 5y = 0\)
   \(-x + 4y = -7\)

5) \( y = -6x\)
   \( y = -3x - 3 \)

6) \(-8x + 8y = -8\)
   \( y = -6x - 15 \)
7) \[8x - 7y = 1\]  
\[x - 4y = -3\]  

8) \[-2x + 4y = 16\]  
\[-2x - y = -4\]  

9) \[y = -2x - 18\]  
\[y = 4x + 18\]  

10) \[-6x - y = -16\]  
\[y = 4x - 4\]  

11) \[x + 3y = 3\]  
\[2x - 5y = -16\]  

12) \[12x + 3y = -27\]  
\[-4x - y = 9\]
Solving Systems by Substitution Revisited

Solve each system by substitution.

1) \[ \begin{align*}
y &= x + 15 \\
y &= -2x - 9
\end{align*} \]
\[ (-8, 7) \]

2) \[ \begin{align*}
-8x + 5y &= 0 \\
y &= 6x + 22
\end{align*} \]
\[ (-5, -8) \]

3) \[ \begin{align*}
-8x + 3y &= 9 \\
x + 3y &= -18
\end{align*} \]
\[ (-3, -5) \]

4) \[ \begin{align*}
3x - 5y &= 0 \\
-x + 4y &= -7
\end{align*} \]
\[ (-5, -3) \]

5) \[ \begin{align*}
y &= -6x \\
y &= -3x - 3
\end{align*} \]
\[ (1, -6) \]

6) \[ \begin{align*}
-8x + 8y &= -8 \\
y &= -6x - 15
\end{align*} \]
\[ (-2, -3) \]
7) \[8x - 7y = 1\]  
\[x - 4y = -3\]  
(1, 1)

8) \[-2x + 4y = 16\]  
\[-2x - y = -4\]  
(0, 4)

9) \[y = -2x - 18\]  
\[y = 4x + 18\]  
(-6, -6)

10) \[-6x - y = -16\]  
\[y = 4x - 4\]  
(2, 4)

11) \[x + 3y = 3\]  
\[2x - 5y = -16\]  
(-3, 2)

12) \[12x + 3y = -27\]  
\[-4x - y = 9\]  
Infinite number of solutions