Substitution Worksheet Answer Key

Where Subway Employees Go When They're Committed

Solve the following systems of equations by using substitution.

1. $y = 3x$, $y = 2x + 4$

   $(4, 12)$

2. $y = 2x - 1$, $y + x = 7$

   $\left(\frac{8}{3}, \frac{13}{3}\right)$

3. $x + 2y = 5$, $2x - 4y = 6$

   $\left(4, \frac{1}{2}\right)$

4. $4 + 2y = x - 5$, $2x + 4y = 12$

   $\left(\frac{15}{2}, -\frac{3}{4}\right)$

5. $5x - y = 7$, $6x + 4y = 12$

   $\left(\frac{20}{13}, \frac{9}{13}\right)$

6. $x = 2$, $y = -2$

   No solution.

7. $y = -10x + 1$, $-30x + 3 = 3y$

   Infinitely many solutions.

8. $2x + 5y = 12$, $3x + 6y = 16$

   $\left(\frac{8}{3}, \frac{4}{3}\right)$

9. $5x + y = 10$, $y = 3x + 2$

   $(1, 5)$

10. $4x + 6y = 20$, $y = 16 - 3x$

    $\left(\frac{22}{7}, \frac{46}{7}\right)$
