

## Algebra 1 Worksheet #2 Unit 9 selected solutions

Solve each of the following systems of equations using the **substitution method**. Show your work neatly organized.

2.  $2x + 3y = 19$        $x = \underline{2}$

$y = x + 3$        $y = \underline{5}$

$2x + 3(x + 3) = 19$        $y = x + 3$

$2x + 3x + 9 = 19$        $y = 2 + 3$

$5x + 9 = 19$        $y = 5$

$5x = 10$

$x = 2$

4.  $3x + 2y = 41$        $x = \underline{11}$

$x = 2y + 3$        $y = \underline{4}$

$3(2y + 3) + 2y = 41$        $x = 2y + 3$

$6y + 9 + 2y = 41$        $x = 2 \cdot 4 + 3$

$8y + 9 = 41$        $x = 8 + 3$

$8y = 32$        $x = 11$

$y = 4$

12.  $3x - 2y = 13$        $x = \underline{-3}$

$y = 3x - 2$        $y = \underline{-11}$

$3x - 2(3x - 2) = 13$        $y = 3(-3) - 2$

$3x - 6x + 4 = 13$        $y = -9 - 2$

$-3x + 4 = 13$        $y = -11$

$-3x = 9$

$x = -3$

15.  $-3x + 5y = 1$        $x = \underline{3}$

$x = 2y - 1$        $y = \underline{2}$

$-3(2y - 1) + 5y = 1$        $x = 2y - 1$

$-6y + 3 + 5y = 1$        $x = 2 \cdot 2 - 1$

$-1y + 3 = 1$        $x = 4 - 1$

$-1y = -2$        $x = 3$

$y = 2$