

Alg 2 HW Help for p. 146 #17

Example: P. 146 #16

Solve the system by substitution:

$$\begin{cases} t = 2r + 3 \\ 5r - 4t = 6 \end{cases}$$

① Since t is already solved for in the first equation, substitute the expression for t into the second equation:

$$5r - 4(2r + 3) = 6$$

② Simplify:

$$5r - 8r - 12 = 6$$

$$-3r - 12 = 6$$

$$-3r = 18$$

$$r = -6$$

③ Use the first equation to solve for t :

$$t = 2(-6) + 3$$

$$t = -12 + 3$$

$$t = -9$$

④ Check this solution in the other equation:

$$5(-6) - 4(-9) =$$

$$-30 + 36 = 6 \quad \checkmark \text{ it checks!}$$

⑤ The solution point (r, t) is

$$(-6, -9)$$