Algebra I   Worksheet #7   Unit 2 Selected Solutions

Complete the table for each input-output chart shown.

	4.	**8.**
Input	$6x + 9 = 4x + 23$	$9x - 10 = 5x + 14$
First Operation	subtract 4x from both sides	subtract 5x from both sides
Output	$2x + 9 = 23$	$4x - 10 = 14$
Second Operation	subtract 9 from both sides	add 10 to both sides
Output	$2x = 14$	$4x = 24$
Third Operation	divide both sides by 2	divide both sides by 4
Output	$x = 7$	$x = 6$

Solve the following equations. Show your steps.

9. $8x + 6 = 5x + 30$
    $\underline{-5x \qquad\quad -5x}$
    $\quad 3x + 6 = 30$
    $\quad \underline{-6 \quad -6}$
    $\quad\;\dfrac{3x}{3} = \dfrac{24}{3}$
    $\qquad x = 8$

10. $4x - 7 = 2x + 9$
    $\underline{-2x \qquad\; -2x}$
    $\quad 2x - 7 = 9$
    $\quad \underline{+7 \quad +7}$
    $\quad\;\dfrac{2x}{2} = \dfrac{16}{2}$
    $\qquad x = 8$

Simplify each of the following expressions.

18. $3x + 5x =$ __**8x**__

20. $x + 3(x + 2) =$ __**4x + 6**__
     $x + 3x + 6$

23. $5x + 4(2x ó 3) =$ __**13x – 12**__
     $5x + 8x ó 12$

24. $5(2x + 3) + 2(3x + 5) =$ __**16x + 25**__
     $10x + 15 + 6x + 10$