Algebra II Worksheet #1 Unit 1 selected solutions

Simplify each of the following expressions.

1.
$$2(7x-2) + 3(x+3) = 17x + 5$$

(14x-4) + (3x + 9)
3. $3(2x+5) - 6(x-3) = 33$
(6x + 15) + (-6x + 18)

Solve each of the following equations. Show your process steps neatly organized.

5.
$$3x + 7 = 22$$

 $3x = 15$
 $x = 5$
9. $4(5x - 3) - 7(x - 1) = 5(2x - 1)$
 $20x - 12 - 7x + 7 = 10x - 5$
 $13x - 5 = 10x - 5$
 $3x = 0$
 $x = 0$

Solve each of the following for the indicated variable. Show your process steps neatly organized.

15. ax - by = cx + d solve for x ax - cx = d + by (a - c)x = d + by $x = \frac{d + by}{a - c}$ 17. $A - abr = bc^2$ solve for b $A = bc^2 + abr$ $A = (c^2 + ar)b$ $b = \frac{A}{c^2 + ar}$

Solve each of the following word problems algebraically. Show your process steps neatly organized. (Use only one variable in your solutions please.)

20. The length of a rectangle is 2 feet less than twice its width. The perimeter of the rectangle is 15 feet. Find the dimensions of the rectangle. Express your answer using feet and inches.



The length is 4 feet 4 inches, and the width is 3 feet 2 inches.