General Algebra II Worksheet #1 Unit 1 Selected Solutions

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

10. $3(x + 1) + 4(3x + 5) = 3$

$3x + 3 + 12x + 20 = 3$

$15x + 23 = 3$

$15x = -20$

$x = \frac{-4}{3}$

13. $7(2x + 3) - 5(4x + 6) = 3$

$14x + 21 - 20x - 30 = 3$

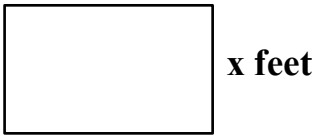
$-6x - 9 = 3$

$-6x = 12$

$x = -2$

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

16. 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.



P = 15 feet

$2(2x - 2) + 2x = 15$

$4x - 4 + 2x = 15$

$6x - 4 = 15$

$6x = 19$

$x = 19/6$ ft. or 3 feet 2 inches

$2x - 2 = 13/3$ ft. or 4 feet 4 inches

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

18. A collection of 58 ordinary coins consists of dimes and nickels and is worth $4. How many coins of each type are in the collection?

	# of coins	value of the coins
dimes	x	$10x$ ¢
nickels	$58 - x$	$5(58 - x)$ ¢
total	58	400 ¢

$10x + 5(58 - x) = 400$

$10x + 290 - 5x = 400$

$5x + 290 = 400$

$5x = 110$

$x = 22$

$58 - x = 36$

Their are 22 dimes and 36 nickels in the collection.