Feb 16/17

Math 10P Name_____

Assignment: Solving Word Problems Date_____

1) Norachai and Nicole each improved their yards by planting rose bushes and shrubs. They bought their supplies from the same store. Norachai spent $208 on 14 rose bushes and 8 shrubs. Nicole spent $128 on 7 rose bushes and 6 shrubs. Find the cost of one rose bush and the cost of one shrub.

Let: x = rosebushes, y = shrubs

Nor: $14x + 8y = 208$

Nic: $2(7x + 6y = 128)$

$14x + 8y = 208$

$-14x - 12y = -256$

$\frac{-4y}{-4} = \frac{-48}{-4}$

$y = 12$

Find x:

$14x + 8y = 208$

$14x + 8(12) = 208$

$14x + 96 = 208$ (−96)

$\frac{14x}{14} = \frac{112}{14}$

$x = 8$

∴ the cost of one rosebush is $8, a shrub is $12

2) Mike and Ashley each improved their yards by planting grass sod and shrubs. They bought their supplies from the same store. Mike spent \$65 on 8 ft² of grass sod and 1 shrub. Ashley spent \$118 on 4 ft² of grass sod and 10 shrubs. Find the cost of one ft² of grass sod and the cost of one shrub.

Let $x = 1\text{ ft}^2$ grass sod, $y =$ shrubs

Mike

$8x + y = 65$

Ashley

$4x + 10y = 118$

$-8x \quad -8x$

$y = -8x + 65$

$4x + 10(-8x + 65) = 118$

$4x - 80x + 650 = 118$

$-76x = -532$

$\frac{-76x}{-76} = \frac{-532}{-76}$

$x = 7$

$8x + y = 65$

$8(7) + y = 65$

$-56 \quad\quad -56$

$56 + y = 65$

$y = 9$

Rose shrubs $= 7$

Sad $= 9$

3) Jimmy and Gabriella are selling cookie dough for a school fundraiser. Customers can buy packages of chocolate chip cookie dough and packages of double chocolate cookie dough. Jimmy sold 14 packages of chocolate chip cookie dough and 12 packages of double chocolate cookie dough for a total of $304. Gabriella sold 4 packages of chocolate chip cookie dough and 3 packages of double chocolate cookie dough for a total of $80. Find the cost each of one package of chocolate chip cookie dough and one package of double chocolate cookie dough.

Let $x = d.cc$ $y = c.c.cd$

J: $14y + 12x = 304$

G: $4y + 3x = 80$

Complete for homework (#3 and #4)

#5 and #6 are BONUS