PROBLEMS AND SOLUTIONS - SYSTEMS OF LINEAR EQUATIONS

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PLEASE NOTE THAT YOU CANNOT USE A CALCULATOR ON THE ACCUPLACER - ELEMENTARY ALGEBRA TEST! YOU MUST BE ABLE TO DO THE FOLLOWING PROBLEMS WITHOUT A CALCULATOR!

Problem 1:

Solve the following system:

$$-5x + y = 8$$

$$-4x + 5y = -1$$

Problem 2:

Solve the following system:

$$3x - 3y = -2$$

$$x - y = 5$$

Problem 3:

Solve the following system:

$$y = 2x - 3$$
$$y = 4x + 5$$

Problem 4:

Solve the following system:

$$3y = -9$$
$$y = 2x$$

Problem 5:

Solve the following system:

$$5x + 6y = 2$$
$$3x - 3y = 10$$

Problem 6:

Solve the following system.

$$8x = 2y + 8$$
$$3y = 12x - 12$$

Problem 7:

A grocer plans to mix candy that sells for $1.20 a pound with candy that sells for $2.40 a pound to get a mixture that he plans to sell for $1.65 a pound. How much of the $1.20 and $2.40 candy should he use if he wants 80 pounds of the mix?

Problem 8:

A charity has been receiving donations of dimes and quarters. They have 94 coins in all. If the total value is $19.30, how many dimes and how many quarters do they have?

Problem 9:

An apartment building contains 12 units consisting of one- and two-bedroom apartments that rent for $360 and $450 per months respectively. When all units are rented, the total monthly rent is $4,950. What is the number of one- and two bedroom apartments?

SOLUTIONS

You can find detailed solutions below the link for this problem set!

1. $\left(-\frac{41}{21},-\frac{37}{21}\right)$	2. This system has no solutions.	3. (-4, -11)
4. $\left(-\frac{3}{2},-3\right)$	5. $\left(2,-\frac{4}{3}\right)$	6. This system has infinitely many solutions.
7. 50lb @ $1.20 and 30lb @ $2.40	8. 28 dimes and 66 quarters	9. 5 one-bedroom and 7 two-bedroom