Algebra 2 Bellwork Thur., Oct. 2, 2014

For 1 to 4, solve each system of equations. Use each method twice. Give your answer as an ordered pair.

1.

$y = x - 9$

$2x - 3y = 20$

2.

$3c - 7d = -31$

$4c + 7d = -25$

3.

$5J - 8K = 68$

$3J - 7K = 54$

4.

$5V - 3W = -12$

$8V + 4W = 60$

5. Each jar holds 16 ounces and each can holds 12 ounces. There are a total of 20 containers that hold a total of 268 ounces. Write and solve a system of equations to find the number of jars and cans that were used.

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1. SUBSTITUTION

$y = x - 9$

$2x - 3y = 20$

$2x - 3(x-9) = 20$

$2x - 3x + 27 = 20$

$-x + 27 = 20$

$-x = -7$

$x = 7$

$y = x - 9$

$= 7 - 9$

$(7, -2)$

2. ELIMINATION

$3c - 7d = -31$

$+ \; 4c + 7d = -25$

$7c = -56$

$c = -8$

$4(-8) + 7d = -25$

$-32 + 7d = -25$

$+32 \quad +32$

$7d = 7$

$d = 1$

$(-8, 1)$

3. ELIMINATION

$3(5J - 8K = 68) \rightarrow 15J - 24K = 204$

$5(3J - 7K = 54) \rightarrow -15J - 35K = 270$

$-11K = -66$

$K = -6$

$3J - 7(-6) = 54$

$3J + 42 = 54$

$3J = 12$

$J = 4$

$(4, -6)$

4. SUBSTITUTION

$5V - 3W = -12$

$8V + 4W = 60 \rightarrow \frac{4W}{4} = \frac{60 - 8V}{4}$

$W = 15 - 2V$

$5V - 3(15 - 2V) = -12$

$5V - 45 + 6V = -12$

$11V = 33$

$V = 3$

$W = 15 - 2(3) = 9$

$(3, 9)$

5. Each jar holds 16 ounces and each can holds 12 ounces. There are a total of 20 containers that hold a total of 268 ounces. Write and solve a system of equations to find the number of jars and cans that were used.

$J = \#$ jars

$C = \#$ cans

$12(C + J = 20) \rightarrow 12C + 12J = 240$

$12C + 16J = 268 \rightarrow -12C + 16J = 268$

$-4J = -28$

$J = 7$

7 jars 9 cans

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