MasterMath

Solve Linear Systems by Addition or Subtraction or Substitution

Name _____

Date _____

1. Solve using substitution: y = 10x – 9 and y = 5x – 4

   | (1, 1) |

2. Solve using substitution: 6x + 5y = 2 and y = -8

   | (7, -8) |

3. Solve using substitution: 2x - 8y = 4 and -2x + y = 17

   | (-10, -3) |

4. Solve using Addition or Subtraction: 2x – 2y = -16 and x – 2y = -7

   | (-9, -1) |

5. Solve using Addition or Subtraction: 4x + 7y = -3 and 4x + 10y = 6

   | (-6, 3) |

6. Solve using Addition or Subtraction: -4x + 10y = -20 and 4x – 5y = -10

   | (-10, -6) |

7.

   Write a system of equations to describe the situation below, solve using any method. An employee at a party store is assembling balloon bouquets. For a graduation party, he assembled 4 small balloon bouquets and 1 large balloon bouquet, which used a total of 48 balloons. Then, for a Father's Day celebration, he used 252 balloons to assemble 2 small balloon bouquets and 10 large balloon bouquets. How many balloons are in each bouquet?

number in large bouquet	number in small bouquet
24	6

8. Write a system of equations to describe the situation below, solve using any method. A TV station executive is planning the new lineup for next season's shows. On Monday nights, there will be 6 sitcoms and 1 drama, for a total of 176 minutes of programming, not counting commercials. On Tuesday nights, she has scheduled 2 sitcoms and 2 dramas, for a total of 102 minutes of non-commercial programming. All sitcoms have the same length and all dramas have the same length. How long is each type of show?

length of sitcoms	length of dramas
25	26

9. Write a system of equations to describe the situation below, solve using any method. Two groups of volunteers are cleaning up the football stadium after the Homecoming game. Volunteers from the Band Booster Club have already cleaned 10 rows of bleachers and will continue to clean at a rate of 1 row per minute. The leadership class has completed 5 rows and will continue working at 2 rows per minute. Once the two groups get to the point where they have cleaned the same number of rows, they will take a break and decide how to split up the remaining work. How many minutes will each group have cleaned by then?

number of minutes	number of rows
5	15

10. Write a system of equations to describe the situation below, solve using any method. Henka and Sherise, both teachers, are adding books to their class libraries. Henka's classroom started out with a collection of only 20 books, but she plans to purchase an additional 2 books per week. Sherise's library started out with 10 books, and she has enough money in her budget to purchase another 3 books per week. At some point, the two teachers' libraries will contain the same number of books. How many books will each class have?

number of books	number of weeks
40	10

11. Is (3, 1) a solution to this system of equations?

    $x + 2y = 4$ $15x + 18y = 14$

    | no |