Assignment

Write

Write three equations, one that has one solution, one that has no solutions, and one that has infinite solutions.

Remember

An equation can have one solution, no solutions, or infinite solutions.

Practice

1. Don has four different chicken coops on his farm. He gathers eggs from each coop every day to sell at the local farmer's market each week. During one week in the summer, the production levels from the coops were compared.
   - The number of eggs from coop B can be found by subtracting 10 from coop A's production, and then multiplying this result by two-fifths.
   - The number of eggs from coop C can be found by adding 3 to coop A's production, multiplying this amount by 3, subtracting 4 from this total, and then dividing the whole result by 4.
   - The number of eggs from coop D can be found by adding 7 to coop A's production, doubling this amount and then dividing the result by 3.

   a. Define a variable for the number of eggs produced by coop A. Then write expressions for the number of eggs produced by the other coops.

   b. If coop A produced 125 eggs, how many did each of the other coops produce?

   c. If the sum of the number of eggs from coop B and coop C was 24 more than the number of eggs from coop D, how many eggs did each coop produce?

2. Three siblings collect rare coins. To determine the number of rare coins that Samantha has, take the number of rare coins Kevin has, add 4, and then divide that sum by 2. To determine the number of rare coins Ben has, double the number of rare coins Kevin has, subtract 4, and then multiply that difference by 2. How many rare coins does each sibling have if they have a total of 49 rare coins?

3. Three teammates had different point totals at the girls' basketball game. To determine the number of points Effie had, multiply Toni's points by 3, subtract 8, and then multiply the difference by 2. To determine the number of points Linda had, add 9 to Toni's points and divide the sum by 3. How many points did each girl have if Effie scored 9 more than Toni and Linda combined?

4. Four members of the track team ran various numbers of miles last week. To determine the number of miles Manuel ran, multiply the number of miles Ewan ran by 3, subtract 15, multiply the difference by 2, and divide this quantity by 5. To determine the number of miles Violet ran, subtract 14 from the number of miles Ewan ran, and then multiply the difference by 3. To determine the number of miles Ling ran, add 30 to the number of miles Ewan ran, and then divide the sum by 5. How many miles did each team member run last week if the total number of miles run by Ewan and Manuel is equal to the total number of miles run by Violet and Ling?