

1. (3) I am thinking of a number. I multiplied my number by 2, subtracted 8, doubled the result, and added 11. Then I subtracted 6. Then I divided by 5. After all that, I was left with 9. What number did I start with? Show your number is right by working the steps forwards. Please circle your answer and label the check.

2. (4) I made a lot of cupcakes for my son's bake sale. My daughter ran through the kitchen and knocked 20 of them off the table, which then needed to be thrown away. My husband came in and decided to hoard 15 cupcakes and put them in the freezer for later. My next door neighbor came by and asked for $\frac{1}{4}$ of what I had left so that she could contribute to the bake sale. So I gave her those. After that, I realized that my daughter needed to donate 40 cupcakes for her school's bake sale so I set those aside. When all was done, I had 29 cupcakes to give my son for his bake sale. How many cupcakes can I tell my son that I originally made for him? Show your number is right by working the steps forwards. Please circle your answer and label the check.

3. (4) My two sisters pooled their savings and decided to go on a shopping spree. They started at Macy's and each bought a pairs of jeans and a shirt, spending \$45 each. Next they went to a shoe store and one bought a pair of shoes for \$28 while the other spent \$35 on a pair. The older sister then spent \$27 on makeup. They were hungry and so spent $\frac{1}{5}$ of what they had left on lunch. They then stopped by the music store and bought 4 CDs for \$9 each. They spent half of what they had left on a gift for mom. On the way home, they spent \$35 on gas. When they got home, they had \$87. How much money did they start with?

4a. (3) Use guess-and-check to explore the following question. You do not need to use the table to solve the problem completely because you will be asked to solve it algebraically.

The total cost of a basketball was \$19.29, including a 7.25% sales tax. How much of that cost was the price of the basketball and how much was the tax?

4b. (3) Use your guess-and-check table from part *a* to now set up and solve an algebraic equation to answer the question. Be sure to explicitly define your variable. Answer the question with a sentence or phrase.

5a. (3) Use guess-and-check to explore the following question. You do not need to use the table to solve the problem completely because you will be asked to solve it algebraically.
Barbie has \$4.35 in quarters and nickels. She has three more nickels than she has quarters. How many of each coin does she have?

5b. (3) Use your guess-and-check table from part *a* to now set up and solve an algebraic equation to answer the question. Be sure to explicitly define your variable. Answer the question with a sentence or phrase.

6. (5) Solve the following equation. Circle your answer for x . Then write a problem that involves nickels and dimes that would be solved by using this equation. Proofread your problem please.

$$.05x + .10(2x + 1) = 2.60$$

7. (4) Below is a system of equations that could be used to solve the following problem. Solve the system and answer the question in sentence form.

Margie and Tucker went apple picking. Margie carried bags that held 6 apples each. Tucker carried bags that held 9 apples each. Together, the children picked a total of 132 apples. If Margie had two more bags than Tucker had, how many bags did each of them have? (Assume each bag was filled to capacity.)

(In the equations, m represents the number of bags Margie had and t represents the number of bags Tucker had.)

$$m = t + 2$$

$$6m + 9t = 132$$