Essential Question: How do we solve word problems involving money?

Do Now:

Find the value of or write an expression for each.

a. Number of cents in 7 nickels

b. Number of cents in 5 quarters, 3 dimes and 13 pennies

c. Number of cents in x nickels

d. Number of cents in x nickels and 15 – x dimes

Coin Word Problems

Key Idea:

Examples:

1. Mr. Jones has nickels, dimes and quarters worth $3.20 in his piggy bank. There are three times as many quarters as nickels and 5 more dimes than nickels. How many coins of each kind are there?

2. A person has 23 coins made up dimes and quarters worth $3.35. How many coins of each type are there?

3. Zack put $4.50 in dimes, nickels and quarters in his piggy bank. He had 5 more dimes than nickels and 16 less quarters than nickels. How many coins of each type are there?

4. John has 10 coins made up of dimes and quarters worth a total of $1.45. How many coins of each type does he have?

5. Debbie has $2.67 worth of quarters, dimes, nickels and pennies in her pocket. She has twice as many pennies as quarters, 3 more dimes than quarters, and half as many nickels as quarters. How many coins of each type are there?

For each example, define all unknowns with variable expressions, set up an equation and solve. Show all work on a separate sheet of paper.

1. Sue has $1.30 in quarters, dimes and nickels in her car. She has three times as many dimes as quarters and twice as many nickels as quarters. How many coins of each type does she have?

2. Janet has 16 coins in her pocket, consisting of quarters and nickels. The coins total $3.00. How many quarters and nickels does Janet have?

3. Joe has quarters, pennies and nickels totaling $2.68. He has twice as many pennies as quarters and four less nickels than quarters. How many coins of each type does he have?

4. Allan has nickels, dimes and quarters in his pocket. The number of nickels is 1 more than twice the number or quarters. The number of dimes is 1 less than the number of quarters. If the value of the change in his pocket is 85 cents, how many of each kind of coin does Allan have?

5. Howard has 14 coins in his pocket consisting of nickels and dimes. If the value of the coins is 90 cents, how many nickels does he have?

6. Jim bought a book for $7.65. He paid with 45 coins consisting of dimes and quarters. How many of each type of coin did he give the salesperson?

The following word problems are not "coin" problems but use the same key concept to solve.
Total Value of an Item = Worth of the Item × The Number of Items

7. Barry bought 25 stamps. Some are worth 25 cents while some are worth 5 cents. If the total value of the stamps is $4.45, how many stamps of each kind did Barry buy?

8. A play sold 478 tickets. Adult tickets sold for $8.50 and children's tickets sold for $5.00. The receipts totaled $3,755. How many children tickets were sold? How many adult tickets were sold?

More Word Problems

9. Find four consecutive integers whose sum is 15 less than five times the first.

10. Twice the sum of a number and 9 is the same as four times the difference obtained when 6 is subtracted from the number. What is the number?