Name _____ Date _____

Mystery Coin Values Guided Lesson Explanation

These problems can be completed algebraically for advanced students. The explanation given here is meant for simple logic students. We know that:

P = 1¢ N = 5¢ D = 10¢ Q = 25¢

1) Step 1: Write out your values. Use an "X" for missing values:

D + Q + Q + Q + N + D + X + X = $1.10

Step 2: Convert the letters to coin values:

D + Q + Q + Q + N + D + X + X = $1.10

10¢ + 25¢ + 25¢ + 25¢ + 5¢ + 10¢ + X + X = $1.10

Step 3: Find the sum of the known values:

10¢ + 25¢ + 25¢ + 25¢ + 5¢ + 10¢ + X + X = $1.10

$1.00 + X + X - $1.10

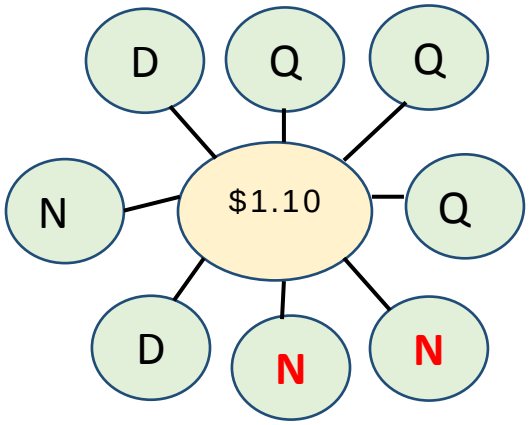
Step 4: Solve for X.

X + X = $1.10 - $1.00

2 X = $0.10 (We can see that we have

2 coins of the same value here.)

X = $0.05 (2 Nickels)



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2) Step 1: Write out your values. Use an "X" for missing values:

D + D + Q + P + X + X = 57¢

Step 2: Convert the letters to coin values:

D + D + Q + P + X + X = 57¢

10¢ + 10¢ + 25¢ + 1¢ + X + X = 57¢

Step 3: Find the sum of the known values:

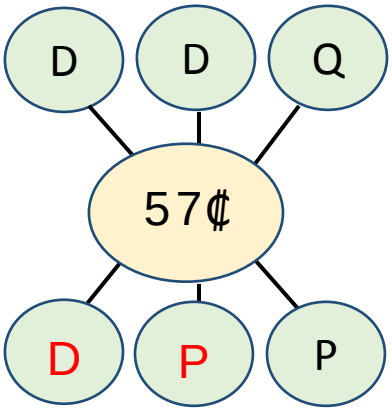
46¢ + X + X = 57¢

Step 4: Solve for X.

2 X = 57¢ - 46¢

2 X = 11¢ (We have 2 coins that have a sum of 11¢)

The only two coins to meet that value are: a penny and a dime.



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3) Step 1: Write out your values. Use an "X" for missing values:

Q + P + N + D + X + X + X = 72¢

Step 2: Convert the letters to coin values:

Q + P + N + D + X + X + X = 72¢

25¢ + 1¢ + 5¢ + 10¢ + X + X + X = 72¢

Step 3: Find the sum of the known values:

41¢ + X + X + X = 72¢

Step 4: Solve for X.

X + X + X = 31¢

(We know that we need 3 coins that have a value of 31¢)

The only 3 coins that have that value are: Q + N + P

Q + N + P

25¢ + 5¢ + 1¢