

# Math Challenge #10

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| First Name: _____ | Last Name: _____      | Grade: _____ |
| Teacher: _____    | Parent's email: _____ |              |

## Coins




Welcome to Math Challenge #10. In this challenge, we focus on problem solving skills that deal with coins. Many students are familiar with coins since a young age, maybe through an allowance or having a lemonade stand. If they don't know them yet, then it's time to teach and show them the name and value of each coin. We have coins in denominations of 1¢, 5¢, 10¢, 25¢, 50¢, and \$1.00.

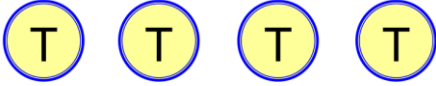


Students, get your coins out if you have to, and don't forget to ask for help.

**Kinder & First Grade: solve at least 3 problems.**  
**Second & Third Grade: solve at least 7 problems.**  
**Fourth Grade and above: solve at least 12 problems.**

|  | <i>Answer</i> |
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| 1. Dana knows that each nickel is worth 5 cents and each penny is worth 1 cent. Dana has 2 nickels and 3 pennies. How much money (in cents) does she have?   |               |
| 2. Tanisha has <b>two different coins</b> , and they add up to 15 cents. What are the coins?<br><br><div style="text-align: center;"> <math>\bigcirc + \bigcirc = 15\text{¢}</math> </div>   |               |
| 3. a. Tom has <b>three different coins</b> , and they add up to 16 cents. What are her coins?<br><br><div style="text-align: center;"> <math>\bigcirc + \bigcirc + \bigcirc = 16\text{¢}</math> </div> b. Justin also has <b>three different coins</b> , but they add up to 31 cents. What are his coins?<br><br><div style="text-align: center;"> <math>\bigcirc + \bigcirc + \bigcirc = 31\text{¢}</math> </div> |               |
| 4. Leanne has five coins in her pocket. Three are silver in color and two are copper-colored. The coins have a total value of 17¢. What is the value of one of the silver coins?   |               |
| 5. Joel bought a notebook on sale for 75 cents. He paid for it with exactly 4 coins. What are the four coins?  |               |

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| <p>6. Jacob, Arush, Nanette, and Timoune placed their coins on the table. Each group of coins belongs to a different person. Find the amount of money each person has using the following clues.</p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <ul style="list-style-type: none"> <li>• Nanette has the least amount of money.</li> <li>• Jacob has the most money.</li> <li>• Arush has twice the number of nickels as the number of pennies.</li> </ul> | <p><i>Arush:</i></p> <p><i>Jacob:</i></p> <p><i>Nanette:</i></p> <p><i>Timoune:</i></p> |
| <p>7. Lina has exactly six coins in quarters, dimes and pennies. She has more quarters than pennies, and she has more dimes than quarters. How much money is her six coins worth?</p>  |   |
| <p>8. Jack has 6 more nickels than Maya has. Jack and Maya have an equal number of all the other types of coins. After he gives 10 nickels to Maya, how much more money will Maya have than Jack?</p>  |   |
| <p>9. Peter has 9 coins in total. He has 4 more pennies than nickels and he has twice as many nickels as dimes. How much money does Peter have?</p>  |   |
| <p>10. In a contest to guess the number of coins in a jar, Arjun guessed 63, Billy guessed 71, and Carlos guessed 81. Nobody was correct. One person guessed four too many and one person guessed six too few. How many coins were there in the jar?</p>   |   |
| <p>11. Aarez has the following seven coins in his pocket: 2 pennies, 2 nickels, 2 dimes, and 1 quarter. He takes out two coins, and he records the sum of their values. How many different sums can he record?</p>   |   |

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| <p>12. Rishi has \$5.25 in nickels and quarters. If he has twice as many nickels as quarters, what is the number of coins that Rishi has?</p>  |  |
| <p>13. Joleen has 12 coins that add up to 83 cents. She has exactly five coins of one type. How many dimes does she have?</p>  |  |
| <p>14. Put four coins on a table, in a row, all tails up, like this:</p>  <p>Turn any three coins over: this counts as one move. You must turn three different coins to complete one move! What is the minimum number of moves will it take to get all the coins on heads?<br/>Hint: Act it out</p> |  |
| <p>15. Some coins were arranged in a row. Half of them were tails up. When two of the coins are turned over, one third of the coins are tails up. How many coins were in the row?</p>  |  |
| <p>16. Given 5 nickels and 3 pennies, how many different amounts of money can be formed using one or more of these 8 coins?</p>  |  |
| <p>17. Nickels, dimes, and quarters are to be used to make exactly \$1.00. At least one of each type of coin must be used. In how many different ways can this be done if an even number of coins must be used?</p>  |  |
| <p>18. A pile of 54 coins is worth \$4.75. There are only dimes and nickels in the pile. How many dimes are there?</p>   |  |

*Solution is available on March 3, 2023*  
[www.mathinaction.org](http://www.mathinaction.org)