



*This brainteaser was supplied by the Mathematical Olympiads for Elementary and Middle Schools ([www.moems.org](http://www.moems.org)).*

Jada has 1 penny, 2 nickels, and 1 dime.  
How many different sums of money can she  
make, if she uses at least one coin?





**Solution: 9 sums.**

At most, she can make  $1 + 5 + 5 + 10 = 21$  cents, if she uses all four coins. The question is, which amounts less than 21¢ are possible?

If she uses the penny in a combination, she can make any value that ends in 1 or 6. If she does not use the penny, she can make any value that ends in 0 or 5. The complete list of possible

sums is shown below:

$1 = 1$	$5 = 5$	$5 + 1 = 6$
$5 + 5 = 10$	$10 + 1 = 11$	$10 + 5 = 15$
$10 + 5 + 1 = 16$	$10 + 5 + 5 = 20$	$10 + 5 + 5 + 1 = 21$