

Suppose sums of money equivalent to whole numbers of nickels are to be paid and the only coins used for payment are nickels and dimes, then if “n” represents a nickel and “d” represents a dime, then we can represent the ways in which sums of money may be paid out schematically.

Amount to be Paid	Possible Arrangements of Coins Making Payment	Number of Arrangements
5¢		
10¢		
15¢	nnn, nd, dn	3
20¢		
25¢		
30¢		
35¢		

Let  $A_n$  represent the number of arrangements of nickels and dimes we can use to pay out an amount equal to  $5n$  cents.

$$A_1 =$$

$$A_2 =$$

$$A_3 =$$

$$A_4 =$$

$$A_5 =$$

$$A_6 =$$

$$A_7 =$$

$$\text{In general, } A_n =$$