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130502	STUDENT REPORT	22 <sup>3</sup> C
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	EXPERIMENT  Fitle  Page 1 A Sept. 1 A Sept. 2 Control of the Sept. 3	20
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68	SUM OF NUMBERS AT PRIME FACTORS	2ª
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,	EXPERIMENT  Fitle  SUM OF NUMBERS AT PRIME FACTORS  Description  One of the state o	13C3
3	Frime factors of a positive integer are the prime numbers that divide that integer exactly.	
3BR13C	Given an array arr of n integers and a positive integer num.	,02A 3BP
	Let's suppose prime factorization of num is: $p^a x q^b x r^c x x z^f$ , where p,q,rz are prime numbers.	,021
1305021	Sum of numbers in array arr at indices of prime factors of number num is: a x arr[p] + b x arr[q] + c x arr[r] + + f x arr[z].	,
1303	You are given an array arr of size n and a positive integer num. You are required to calculate the sum of numbers in arr as mentioned above, and print the same.	3BR23C
05	Note:	
,02A 3BF	<ul> <li>If arr is empty, print -1.</li> <li>If prime factor of num not found as indices, print 0.</li> </ul>	20502
	Input Format:	V
3BR13C	The input consists of three lines:	28
3~	The first line contains an integer, i.e. n.	,02A 3BF
2	<ul> <li>The second line contains an array arr of length of n.</li> <li>The third line contains an integer num</li> </ul>	,
1305021	The input will be read from the STDIN by the candidates.	300
	Output Format:	3BR1
388	Print the sum that was mentioned in the problem statement.	
.0	Example:	502
	Input:	1305
	6	
	11 21 32 45 1 23	2A369
	6	321
	Output:	_C
	77	387330
	Explanation:	'5°

3BRIV

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Source Code:
          from collections import defaultdict
          def prime_factors(num):
              factors = defaultdict(int)
              while num % 2 == 0:
                  factors[2] += 1
                  num //= 2
              for i in range(3, int(num**0.5) + 1, 2):
                  while num % i == 0:
                      factors[i] += 1
                      num //= i
              if num > 2:
                  factors[num] += 1
              return factors
          def calculate_prime_index_sum(arr, num):
              if not arr:
                  return -1
              factors = prime_factors(num)
              total_sum = 0
              valid_prime_found = False
              for prime, power in factors.items():
                  if prime < len(arr):</pre>
                      total_sum += power * arr[prime]
                      valid_prime_found = True
              return total_sum if valid_prime_found else 0
          if __name__ == "__main__":
              n = int(input())
              arr = list(map(int, input().split()))
              num = int(input())
              result = calculate_prime_index_sum(arr, num)
              print(result)
RESULT
        4 / 5 Test Cases Passed | 80 \%
```