



12. How many two-digit numbers N have the property that the sum of N and the number formed by reversing the digits of N is a square?
- A 2 B 5 C 6 D 7 E 8

0782



©UKMT

-
12. E Let N be the two-digit number 'ab', that is $N = 10a + b$. So the sum of N and its 'reverse' is $10a + b + 10b + a = 11a + 11b = 11(a + b)$. As 11 is prime and a and b are both single digits, $11(a + b)$ is a square if, and only if, $a + b = 11$. So the possible values of N are 29, 38, 47, 56, 65, 74, 83, 92.