

## Multiplication by 11

Use the following steps to multiply by 11:

- Write down the last digit of the number you are multiplying by 11.
- Add the last digit to the digit on its left. Write down the last digit of the sum and carry if necessary.
- Move one digit to the left.
- Add that digit to the digit on its left. Write (to the left) and carry.
- Continue the process of moving to the left and adding until there are no more digits.

EXAMPLE:

$$23 \times 11 =$$

Write the last digit: 3 3  
 Add 3 and 2.  $3 + 2 = 5$  53  
 Move to the 2.  
 Since there are no more numbers to the left of the 2 and  
 there is no carry from the previous sum, write down 2. 253  
 Therefore,  $23 \times 11 = 253$ .

EXAMPLE:

$$846 \times 11 =$$

Write the last number: 6 6  
 Add 6 and 4.  $6 + 4 = 10$ . 06 (carry 1)  
 Move to the 4.  
 Add 4 and 8 and the carry.  $4 + 8 + 1 = 13$  306 (carry 1)  
 Move to the 8.  
 Since 8 is the last number, just add the carry.  $8 + 1 = 9$  9306  
 Therefore,  $846 \times 11 = 9306$ .