

Name: \_\_\_\_\_

Date: \_\_\_\_\_

# The Number Trick

José notices that if he adds 2 to 3 and then multiplies the result by 5, he gets 25.

$$2 + 3 = 5$$

$$5 \cdot 5 = 25$$

He also notices that when he multiplies 2 by 5 and then adds 15 to the result, he gets 25 – the same answer!

$$2 \cdot 5 = 10$$

$$10 + 15 = 25$$

To see if this trick works for other numbers besides 2, José tries it with 1, 3, 4, and 5, getting the same results for each method. A table of his results is shown below.

Starting number	First add 3, then multiply by 5	First multiply by 5, then add 15
1	20	20
2	25	25
3	30	30
4	35	35
5	40	40

José likes the number trick he has discovered, but he's not sure if it will work for other numbers. To help José learn more about his number trick, start by filling in the table below. Calculate the results for 6-10 and then for 3 other numbers of your choice.

Starting number	First add 3, then multiply by 5	First multiply by 5, then add 15
6		
7		
8		
9		
10		

Write down any patterns you noticed.

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Do you think José's trick will work for every number? (*circle one*)      **YES / NO**

Justify your answer. If you think José's trick works for all numbers, explain why. If not, explain why it does not work for all numbers.

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Based on what you learned about José's trick, try to create your own number trick. Prove whether or not your own trick works for all numbers.

**My number trick:**

First \_\_\_\_\_, then \_\_\_\_\_

**OR**

First \_\_\_\_\_, then \_\_\_\_\_

My number trick      **DOES / DOES NOT** (*circle one*)      work for all numbers because

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