







THINK ABOUT THE 3-DIGIT NUMBER "a b c", WHERE "a", "b", AND "c" ARE THE HUNDREDS, TENS, AND ONES, IN THAT ORDER. THAT MEANS THAT

$$\underline{a} \underline{b} \underline{c} = (a \times 100) + (b \times 10) + (c \times 1)$$

THEN PULL ONE THING OUT OF EACH PLACE.

$$= (a \times 99 + a) + (b \times 9 + b) + c$$

SO, PUT ALL OF YOUR SINGLES TOGETHER.

$$= (a \times 99) + (b \times 9) + (a + b + c)$$

THE FIRST TWO PARTS ARE DIVISIBLE BY 9, SO IF THE LAST PART, THE SUM OF THE DIGITS, IS DIVISIBLE BY 9, THEN THE WHOLE THING HAS TO BE DIVISIBLE BY 9!

$4 + 2 + 6 + 8 = (4 + 6) + (2 + 8) = 20$,
SO 7 MORE IS 27!

