

# MATHEMATICS TIPS (JANUARY 2022)

Leo Ramirez Sr. (The Wizard Maker)

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## SUMMATION

$$(1) \quad \sum_{k=1}^{10} (2k + 3) = \underline{\hspace{2cm}}.$$

$$2(1 + 2 + 3 + \dots + 10) + 10(3)$$

$$2\left(\frac{10(11)}{2}\right) + 30 = 110 + 30 = 140$$

$$(2) \quad \sum_{k=1}^{15} (3k - 5) = \underline{\hspace{2cm}}.$$

$$3(1 + 2 + 3 + \dots + 15) - 15(5)$$

$$3\left(\frac{15(16)}{2}\right) - 75 = 3(120) - 75 = 360 - 75 = 285$$

## SPECIAL PROBLEM

$$\prod_{k=1}^4 5k = \underline{\hspace{2cm}}.$$

$$[5(1)][5(2)][5(3)][5(4)]$$

$$(5^4)(1)(2)(3)(4) = 625(24) = 2500$$