NUMBER SENSE TIPS (JANUARY 2019)

Leo Ramirez Sr. (The Wizard Maker)
www.rammaterials.com

For more teaching tips, visit the STORE and look for instructional Number Sense workbooks.

1. 8928 = 93 x _____.

   This is the shortcut for multiplying numbers close to 100.

   Step #1 : (100 - 93)(100 - ?) = 28

   7(100 - ?) = 28

   100 - ? = 4 ; ? = 96

2. Estimate : 48731 ÷ 213 = _____.

   49000 ÷ 210 ; Temporarily disregard the zeroes.

   49/21 = 7/3 = 2.33…

   When 48731 is divided by 213, the answer should have 3 digits. Thus, answer is 233.

   Range : 218 - 240

3. $\frac{5!+7!}{6!}$ = _____.

$\frac{5!}{6!}+\frac{7!}{6!}=\frac{1}{6}+7$ = 7 1/6

4. If x^2 = 50, then (3x - 4)(3x + 4) = _____.

(3x - 4)(3x + 4) = $9x^2$ - 16

9(50) - 16 = 450 - 16 = 434

5. How many triangles can be drawn from a given vertex of an n-gon?

Rule : ${}_{n-1}C_2$

Example A : How many triangles can be drawn from a given vertex of a septagon?

$${}_{7-1}C_2 = {}_6C_2 = \frac{6!}{4!2!} = \frac{(6)(5)}{2} = 15$$

The number of triangles that can be drawn from each vertex are the triangular numbers. The only t triangular number NOT included is 1. Thus, to determine how many triangle can be drawn from the vertex of an n-gon simply find the (n - 2)th triangular number.

Example A : How many triangles can be drawn from a given vertex of a octagon?

Find the (8 - 2)th triangular number. The 6th triangular number is $\frac{(6)(7)}{2}$ = 21.