

Bellwork Wednesday, March 28, 2018

1. There are 24 students in a class.

a) How many ways could President, Vice-President, and Secretary be assigned?

b) How many ways could a committee of 3 students be picked to meet with the principal?

2. How many different arrangements of the letters in the word TENNESSEE are there?

3. There are 25 people in a jury pool

a) A jury of 12 members must be selected from that jury pool. How many different juries are possible?

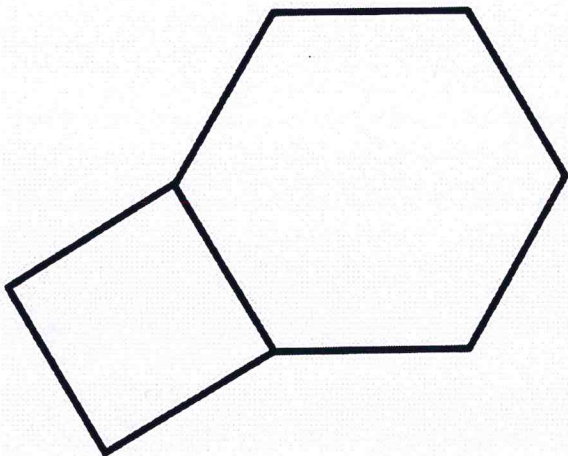
b) After the jury is selected a Foreman and an Assistant Foreman must be selected. How many ways can this be done?

4. You are going to make a smoothie and have the following ingredients to put into the blender:

Strawberries, Blueberries, Oranges, Peaches, Apples, and Mangos. If the blender can only hold three of these ingredients at once, how many different smoothies are possible?

5. The figure below shows a regular hexagon with sides of length a and a square with sides of length a . If the area of the hexagon is $384\sqrt{3}$ square inches, what is the area, in square inches, of the square?

A) 256 B) 192 C) $64\sqrt{3}$ D) $16\sqrt{3}$



(1) a) ${}_{24}P_3 = 12,144$

b) ${}_{24}C_3 = 2024$

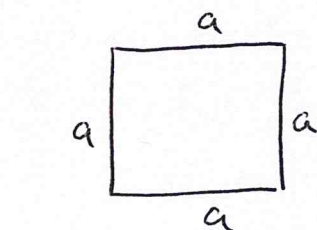
(2) $\frac{9!}{4! 2! 2!} = 3780$
9 TOTAL LETTERS
4 E's 2 A's 2 S's

(3) a) ${}_{25}C_{12} = 5,200,300$

b) ${}_{12}P_2 = 132$

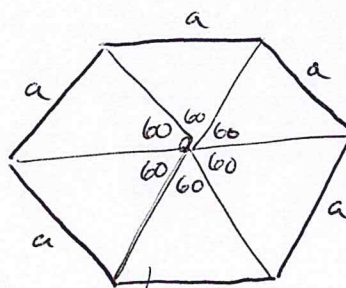
(4) ${}_6C_3 = 20$

(5)

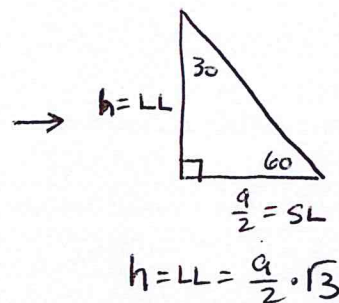
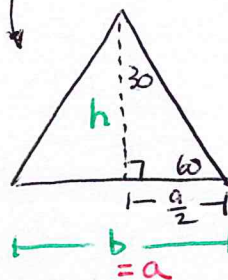


Area = a^2

Area of the square
= 256



each Δ is an equilateral Δ



Area = $384\sqrt{3}$
 = 6 (area 1 Δ)
 = $6(\frac{1}{2}bh)$

$384\sqrt{3} = 6(\frac{1}{2}(a)(\frac{a\sqrt{3}}{2}))$

$384\sqrt{3} = \frac{3a^2\sqrt{3}}{2}$

$\frac{2}{3} \cdot 384 = \frac{3}{2}a^2 \cdot \frac{2}{3}$

$a^2 = 256$