

Precalc - BE $\Rightarrow$ Homework Review $\Rightarrow$ TUESDAY
3-9-10

Bag with 5 yellow, 6 blue, 4 white
marbles $\Rightarrow$ 15 total.

$P(2 \text{ yellow})$
WITH replacement

$$\begin{array}{|c|} \hline F \\ \hline C \\ \hline P \\ \hline \end{array} \quad \frac{5}{15} \cdot \frac{5}{15} = \frac{1}{3} \cdot \frac{1}{3} = \boxed{\frac{1}{9}}$$

$$\begin{array}{|c|} \hline CNr \\ \hline \end{array} \quad \frac{{}_5C_1}{{}_{15}C_1} \cdot \frac{{}_5C_1}{{}_{15}C_1}$$

$$\frac{5}{15} \cdot \frac{5}{15} = \boxed{\frac{1}{9}} \checkmark$$

$\uparrow \quad \uparrow$
two events

$P(2 \text{ yellow})$
NO replacement

$$\begin{array}{|c|} \hline F \\ \hline C \\ \hline P \\ \hline \end{array} \quad \frac{5}{15} \cdot \frac{4}{14} = \frac{1}{3} \cdot \frac{2}{7} = \boxed{\frac{2}{21}}$$

$$\begin{array}{|c|} \hline CNr \\ \hline \end{array} \quad \frac{{}_5C_2}{{}_{15}C_2} = \frac{\frac{5!}{(5-2)!2!}}{\frac{15!}{(15-2)!2!}}$$

$$= \frac{\frac{5!}{3!2!}}{\frac{15!}{13!2!}} = \frac{\frac{5 \cdot 4}{2!}}{\frac{15 \cdot 14}{2}} = \frac{10}{105} = \boxed{\frac{2}{21}} \checkmark$$

$$\underline{\underline{or}} \quad \frac{{}_5C_1}{{}_{15}C_1} \cdot \frac{{}_4C_1}{{}_{14}C_1} = \boxed{\frac{2}{21}} \checkmark$$

$\uparrow \quad \uparrow$
two events

1.
From 2/5/10 Class Notes

Problem 6 $\Rightarrow$ Homework Worksheet

Draw 4 crayons

7 white, 5 blue crayons, $P(\geq 3 \text{ white})$

WAYS 3 WHITE
crayons can be
arranged
(of 7)

WAYS 1
blue crayon
can be arranged
(of 5)

FUNDAMENTAL
COUNTING PRINCIPLE

Success

total

$$7C3 \cdot 5C1$$

$$12C4$$

total ways 12
crayons can be
arranged taken 4
at a time

$$7C4 \cdot 5C0$$

$$12C4$$

$$\frac{35 \cdot 5}{495}$$

$$+ \frac{35}{495}$$

$$= \frac{210}{495} = \frac{42}{99}$$

$$= \boxed{\frac{14}{33}}$$

• SIMULATION ?

Ex 3
PS 860

CD's, 3 rock, 4 country, 2 JAZZ

$P(2 \text{ rock}) \Rightarrow$ w/o Replacement

$$\boxed{\text{FCP}} \Rightarrow \frac{3}{9} \cdot \frac{2}{8} = \frac{6}{72} = \boxed{\frac{1}{12}}$$

$$\boxed{\text{CNR}} \Rightarrow \frac{{}^3C_2}{{}^9C_2} = \frac{\frac{3!}{1!2!}}{\frac{9!}{7!2!}} = \frac{3}{36} = \boxed{\frac{1}{12}} \checkmark$$

$\boxed{\text{Exam 2}} \Rightarrow$

Ch 12-1 Arithmetic Sequences

12-2 Geometric Sequences

13-1 Permutations & Combinations

13-2 Permutations w/ Repetitions & Circular Permutations

13-3 Probability & Odds

13-4 Probability of Compound Events

12-6 Binomial Theorem

13-6 Binomial Theorem & Probability

* 10-1 Midpoint & Distance Formulas

New 10-2 Circles

10-3 Ellipses

Quizzes & Exam 1 $\Rightarrow$ STUDY GUIDES