

## mobius

## **Probability Counting - Duplicate Orders** in 5 Cards, 1 Repeat - to Equation



How many ways can these cards be arranged to still be arranged  7	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2 • 2 · 2 · 2 · 2 · 2 · 4 · • 3 • 4 · • • • • • • • • • • • • • • • • •	$\begin{bmatrix} \frac{A}{3} & 1 & \\ \hline 3 \cdot 2 \cdot 1 & \\ 0 & \\ 3 \cdot 2 \cdot 3 \cdot 2 & \\ \hline 4 \cdot 3 \cdot 2 & \\ \hline 6 & 2 & \\ \hline 7 & 2 & \\ \hline 9 & 2 & \\ \hline $
How many ways can these cards be arranged to still be arranged  4	$\frac{1}{2 \cdot 1}$ $\frac{1}{2 \cdot 1}$ $\frac{2}{2 \cdot 1}$	How many ways can these cards be arranged to still be arranged  3	$\frac{3 \cdot 2 \cdot 1}{3 \cdot 2 \cdot 1}$ $\frac{3 \cdot 2}{5 \cdot 4 \cdot 3 \cdot 2}$ $\frac{^{\text{B}}}{3 \cdot 2 \cdot 2}$ $\frac{^{\text{D}}}{2}$
6 • 7 • Thow many ways can these cards be arranged to still be arranged	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	How many ways can	$ \begin{array}{c} 3 \cdot 2 \cdot 1 \\                                  $
9 A 100 3. J.	$ \begin{array}{c} c\\3 \cdot 2 \cdot 3 \cdot 2 \\ \hline 4 \cdot 3 \cdot 2 \\ \hline                                  $	2 A 2 A 4	$ \begin{array}{c c} 3 \cdot 2 \cdot 1 \\ \hline ^{c} & 2 \\ \hline 3 \cdot 2 \cdot 1 \end{array} $ $ \begin{array}{c c} ^{D} & 4 \cdot 3 \cdot 2 \\ \hline ^{E} & 5 \cdot 4 \cdot 3 \cdot 2 \end{array} $
How many ways can these cards be arranged to still be arranged  The still be arranged arrange	$ \begin{array}{c c} 3 \cdot 2 \cdot 1 \\ 4 \cdot 3 \cdot 2 \\ \hline ^{C} 1 \\ \hline 3 \cdot 2 \cdot 1 \end{array} $	smallest to largest?  6	$\begin{bmatrix} \frac{A}{3 \cdot 2 \cdot 1} & 3 \cdot 2 \\ \frac{C}{3 \cdot 2 \cdot 1} & 5 \cdot 4 \cdot 3 \cdot 2 \end{bmatrix}$
	5 · 4 · 3 · 2 <sup>F</sup> 3 · 2		4 · 3 · 2 5 · 2 · 2