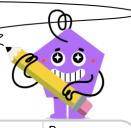


## mobius

## **Probability Counting - Duplicate Orders** in 5 Letters, 2 Repeat - to Equation



| How many ways can these letter tiles be ordered to spell 'VIVID'?  V I V D | $ \begin{array}{c c} ^{A} 2 \cdot 2 & \frac{B}{2 \cdot 2} \\ ^{C} 4 \cdot 3 \cdot 2 \cdot 2 & \frac{1}{2 \cdot 2} \\ ^{E} 2 \cdot 4 \cdot 3 \cdot 2 & \frac{F}{3} \cdot 2 \cdot 2 \end{array} $   | How many ways can these letter tiles be ordered to spell  M A M  M A | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$  |
|--|---|--|---|
| How many ways can these letter tiles be ordered to spell  E L  E L         | $\begin{bmatrix} \frac{A}{2} \cdot 4 \cdot 3 \cdot 2 & \frac{B}{2} \cdot 3 \cdot 2 \\ \frac{C}{2 \cdot 2} & 2 \cdot 2 \end{bmatrix} \cdot 2 \cdot 2$  | How many ways can these letter tiles be ordered to spell  P A P  P A | $ \frac{A}{3 \cdot 2 \cdot 2} = \frac{2}{4 \cdot 3 \cdot 2 \cdot 2} $ $ \frac{C}{3 \cdot 2 \cdot 4 \cdot 3 \cdot 2} = \frac{D}{3 \cdot 2 \cdot 2} $ $ \frac{E}{5 \cdot 4 \cdot 3 \cdot 2 \cdot 2} = \frac{1}{3 \cdot 2 \cdot 2} $ |
| How many ways can these letter tiles be ordered to spell  D A D  D A       | $\begin{bmatrix} \frac{A}{3 \cdot 2 \cdot 2} & \frac{B}{3 \cdot 2 \cdot 4 \cdot 3 \cdot 2} \\ \frac{C}{3 \cdot 2 \cdot 3 \cdot 2} & \frac{D}{5 \cdot 4 \cdot 3 \cdot 2 \cdot 2} \\ \frac{E}{3 \cdot 2 \cdot 2} & \frac{1}{3 \cdot 2 \cdot 2} \end{bmatrix}$                                       | M A M  | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$  |
| How many ways can these letter tiles be ordered to spell  P A P  P A       | $ \begin{array}{c} A \\ 3 \cdot 2 \cdot 3 \cdot 2 \\ C \\ 2 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \end{array} $ $ \begin{array}{c} D \\ 2 \cdot 3 \cdot 2 \end{array} $ $ \begin{array}{c} E \\ 4 \cdot 3 \cdot 2 \cdot 3 \cdot 2 \end{array} $ $ \begin{array}{c} F \\ 2 \cdot 3 \cdot 2 \end{array} $ | How many ways can these letter tiles be ordered to spell  A  R       | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$  |