

## mobius

## **Probability Counting - Duplicate Orders** in 5 Letters, 2 Repeats - to Factorial



1		<b>Equation</b>
		How many
		letter tiles b

ways can these be ordered to spell 'LEVEL'? Show as a factorial.

	Ļ	
1	1	



How many ways can these letter tiles be ordered to spell 'PAPPA'? Show as a factorial.

Α	2! · 2!	В	$\frac{1}{2! \cdot 2!}$
С	2! · 4!	D	4! · 2

2!

21 · 21

P	Α

Α	4! · 3!	В	2! 2! · 3!
С	$\frac{1}{2! \cdot 3!}$	D	2! · 5!
Е	2! · 3!	F	3! · 3!

3



How many ways can these letter tiles be ordered to spell 'DADDA'? Show as a factorial.

4

 $2! \cdot 3!$ 



How many ways can these letter tiles be ordered to spell 'MAMMA'? Show as a factorial.

D	Α

Α	$\frac{2!}{3! \cdot 2!}$	В	5! · 2!
С	$\frac{1}{3! \cdot 2!}$	D	3! · 3!
E	3! · 4!	F	3! · 2!

MA
----

<sup>A</sup> 2! · 3!	<sup>B</sup> 2! · 4!
<sup>c</sup> 4! · 3!	$\begin{array}{c} D & \frac{1}{2! \cdot 3!} \end{array}$
E 2! · 5!	F 3! · 3!

5



How many ways can these letter tiles be ordered to spell 'VIVID'? Show as a factorial.

ס	
_	



How many ways can these letter tiles be ordered to spell 'PAPPA'? Show as a factorial.



Α	2! · 4!	<sup>B</sup> 2! · 3!
С	3! · 2!	$\begin{array}{c} D & \frac{1}{2! \cdot 2!} \end{array}$
E	$\frac{2!}{2! \cdot 2!}$	F 2! · 2!

Р	Α

Α	1	В	2!	
	3! · 2!		3! · 2!	
С	3! · 2!	D	3! · 3!	
Е	4! · 2!	F	3! · 4!	

7



How many ways can these letter tiles be ordered to spell 'MAMMA'? Show as a factorial.



8



How many ways can these letter tiles be ordered to spell 'DADDA'? Show as a factorial.





Α	3! · 4!	<sup>B</sup> 5! · 2!
С	4! · 2!	$\begin{array}{c c} D & \frac{1}{3! \cdot 2!} \end{array}$
Е	2!	F 31.21

 $3! \cdot 2!$ 



D	A
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_					
	Α	$\frac{1}{2!\cdot 3!}$	В	2! · 5!	
	С	2! · 3!	D	2! · 4!	
	Ε	2!	F	41 . 31	

 $2! \cdot 3!$