



Math worksheet on 'Probability Counting - Ways to O Cards, 1 Repeat - to Equation (Level 1)'. Part of a br unit on 'Probability and Statistics - Probability wit Factorials Practice'

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**1** How many distinct ways can these cards be ordered? Show as a multiplication.

7♥	7♥	J♥
Q♠	8♠	

<b>a</b>	<b>b</b>
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{2 \cdot 3 \cdot 2}$	$\frac{3 \cdot 2}{2}$
<b>c</b>	<b>d</b>
$\frac{6 \cdot 5 \cdot 4 \cdot 3 \cdot 2}{2 \cdot 2}$	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{2}$
<b>e</b>	<b>f</b>
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}$	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{2 \cdot 2}$

**2** How many distinct ways can these cards be ordered? Show as a multiplication.

Q♣	K♣	K♣
J♦	10♠	

<b>a</b>	<b>b</b>
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}$	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{2}$
<b>c</b>	<b>d</b>
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{2 \cdot 3 \cdot 2}$	$\frac{3 \cdot 2}{2}$
<b>e</b>	<b>f</b>
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{2 \cdot 2}$	$\frac{7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2}{2 \cdot 2}$

**3** How many distinct ways can these cards be ordered? Show as a multiplication.

K♦	7♣	7♣
5♣	7♣	

<b>a</b>	<b>b</b>
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{3 \cdot 2 \cdot 2}$	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}$
<b>c</b>	<b>d</b>
$\frac{4 \cdot 3 \cdot 2}{3 \cdot 2}$	$\frac{3 \cdot 2}{3 \cdot 2}$
<b>e</b>	<b>f</b>
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{3 \cdot 2}$	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{4 \cdot 3 \cdot 2}$

**4** How many distinct ways can these cards be ordered? Show as a multiplication.

10♣	K♣	A♥
3♣	K♣	

<b>a</b>	<b>b</b>
$\frac{3 \cdot 2}{2}$	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{2 \cdot 2}$
<b>c</b>	<b>d</b>
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{3 \cdot 2}$	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}$
<b>e</b>	
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{2}$	

**5** How many distinct ways can these cards be ordered? Show as a multiplication.

10♣	10♣	5♥
10♣	6♣	

<b>a</b>	<b>b</b>
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{3 \cdot 2 \cdot 3 \cdot 2}$	$\frac{4 \cdot 3 \cdot 2}{3 \cdot 2}$
<b>c</b>	<b>d</b>
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{4 \cdot 3 \cdot 2}$	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{3 \cdot 2}$
<b>e</b>	
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}$	

**6** How many distinct ways can these cards be ordered? Show as a multiplication.

3♥	10♠	8♦
9♥	3♥	

<b>a</b>	<b>b</b>
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{2}$	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}$
<b>c</b>	<b>d</b>
$\frac{7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2}{2}$	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{2 \cdot 3 \cdot 2}$
<b>e</b>	<b>f</b>
$\frac{6 \cdot 5 \cdot 4 \cdot 3 \cdot 2}{2 \cdot 2}$	$\frac{6 \cdot 5 \cdot 4 \cdot 3 \cdot 2}{2}$

**7** How many distinct ways can these cards be ordered? Show as a multiplication.

10♦	K♥	10♦
10♦	Q♦	

<b>a</b>	<b>b</b>
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}$	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{3 \cdot 2}$
<b>c</b>	<b>d</b>
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{3 \cdot 2 \cdot 3 \cdot 2}$	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{4 \cdot 3 \cdot 2}$
<b>e</b>	<b>f</b>
$\frac{4 \cdot 3 \cdot 2}{3 \cdot 2}$	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{5 \cdot 4 \cdot 3 \cdot 2}$