### Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**“OR” Rule: Mutually Exclusive vs. Overlapping**

**Vocabulary:**

* Compound Event
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Mutually Exclusive
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Overlapping
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |
| --- |
| **Mutually Exclusive**  The probability that one or the other of several events will occur  is found by summing the individual probabilities of the events: |

1. Find the probability that a girl’s favorite department

|  |  |
| --- | --- |
| Macy’s | 0.25 |
| Saks Fifth Ave. | 0.20 |
| Nordstrom | 0.20 |
| JC Penny’s | 0.10 |
| Bloomingdale’s | 0.25 |

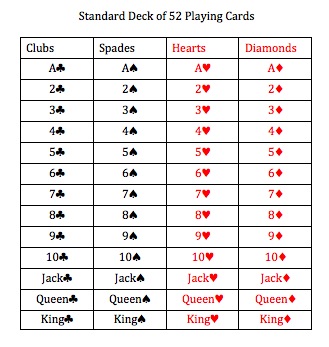
store is Macy’s or Nordstrom.

Find the probability that a girl’s favorite store is not JC Penny’s.

1. When rolling two dice, what is probability

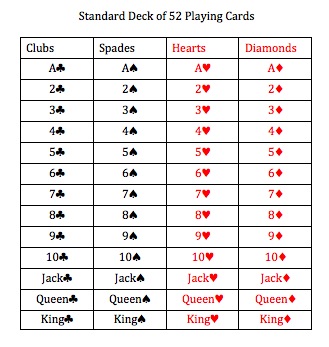
|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| + | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |

that your sum will be 4 or 5?

1. What is the probability of picking a queen or an ace from a deck of cards?

|  |
| --- |
| **Overlapping Events**  Probability that non-mutually exclusive events  A and B or both will occur expressed as:  P(A or B)  P(A **∪** B) = P(A) **+** P(B) – P(A ∩ B) |

1. Find the probability of picking a king or a club in a deck of cards.
2. Find the probability of picking a face card or a red card in a deck of cards



1. Find the probability of picking a female or a person from Florida out of the committee members.

|  |  |  |
| --- | --- | --- |
|  | Female | Male |
| Florida | 8 | 4 |
| Alabama | 6 | 3 |
| Georgia | 7 | 3 |

1. When rolling 2 dice, what is the probability of

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| + | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |

getting an even sum or a number greater than 10?