Time Frame: 50 minutes

Subject Matter: The Addition Rules of Probability **TELL ME**

Anticipatory Set:

Two dice are rolled. Find the probability of getting;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Event | Mutually Exclusive or Not | Rule | Solution | Answer |
| A sum of 6 or 7 or 8. |  |  |  |  |
| Doubles or a sum of 4 or 6. |  |  |  |  |
| A sum greater than 9 or less than 4 or a 7 |  |  |  |  |

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

Objective: TSWBAT find the probability of an event using the addition rules for probability.

Standards: DA – 1.1, 1.2, & 1.5

Materials: Textbook, O.H.P. & Transparencies

**SHOW ME**

Presentation of Information:

Definition of Terms:

* **Addition Rule # 1**

When three events A, B, and C are mutually exclusive, the probability that A **or** B **or** C will occur is

***P(A or B) = P(A) + P(B) + P(C)***

* **Addition Rule # 2**

When three events A, B, and C are not mutually exclusive, then

***P(A or B) = P(A) + P(B) + P(C) – P(A and B) – P(A and C) – P(B and C) + P(A and B and C)***

The teacher will let the students discuss the problem in the warm-up exercises.

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**LET ME TRY**

1. Three dice are rolled. Find the probability of getting;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Event | Mutually Exclusive or Not | Rule | Solution | Answer |
| A sum of 3 or 11 or 17. |  |  |  |  |
| Triples |  |  |  |  |
| A sum greater than 15 or less than 6 or a 12. |  |  |  |  |
| A sum of 5. |  |  |  |  |

Complete the outcomes below.

Some are listed below.

(1,1,1) (1,2,1) (1,3,1) \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (2,1,1) (2,2,1) (2,3,1) \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(1,1,2) (1,2,2) (1,3,2) \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (2,1,2) (2,2,2) (2,3,2) \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(1,1,3) (1,2,3) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (2,1,3) (2,2,3) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(1,1,4) (1,2,4) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (2,1,4) (2,2,4) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(1,1,5) (1,2,5) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (2,1,5) (2,2,5) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(1,1,6) (1,2,6) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (2,1,6) (2,2,6) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(3,1,1) (3,2,1) (3,3,1) \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (4,1,1) (4,2,1) (4,3,1) \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(3,1,2) (3,2,2) (3,3,2) \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (4,1,2) (4,2,2) (4,3,2) \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(3,1,3) (3,2,3) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (4,1,3) (4,2,3) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(3,1,4) (3,2,4) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (4,1,4) (4,2,4) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(3,1,5) (3,2,5) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (4,1,5) (4,2,5) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(3,1,6) (3,2,6) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (4,1,6) (4,2,6) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(5,1,1) (5,2,1) (5,3,1) \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (6,1,1) (6,2,1) (6,3,1) \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(5,1,2) (5,2,2) (5,3,2) \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (6,1,2) (6,2,2) (6,3,2) \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(5,1,3) (5,2,3) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (6,1,3) (6,2,3) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(5,1,4) (5,2,4) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (6,1,4) (6,2,4) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(5,1,5) (5,2,5) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (6,1,5) (6,2,5) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

(5,1,6) (5,2,6) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ (6,1,6) (6,2,6) \_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

1. An urn contains 6 red balls, 2 green balls, 1 blue ball, and 1 white ball. If a ball is drawn, find the probability of these events.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Event | Mutually Exclusive or Not | Rule | Solution | Answer |
| A red or a white ball. |  |  |  |  |
| A green or a blue or a red ball |  |  |  |  |
| A white or a red or a green or a blue ball. |  |  |  |  |