For #1-6 use the spinner number from one to eight. Find each probability.

1. The spinner lands on 3, given that the spinner landed on an odd number.

2. The spinner lands on a number greater than 5 given that the spinner landed on an even number.

3. The spinner lands on a number less than 6, given that the spinner did not land on 1 or 2.

4. The spinner lands on 7, given that the spinner landed on a number greater than 4.

5. The spinner does not land on 3, given that the spinner landed on an odd number.

6. The spinner lands on a number less than 6, given that the spinner landed on an odd number.

7. The Panic Squadron is playing a concert. Sarah surveyed her classmates to see if they were in the Panic Squadron Fan Club and if they were going to the concert. Find the probability that a person surveyed went to the concert, given that they are a fan club member

8. Mr. Monroe is organizing the gym class into two teams for a game. The 20 students randomly draw cards numbered with consecutive integers from 1 to 20.

* Students who draw odd numbers will be on the Red team.
* Students who draw even numbers will be on the Blue team.

If Monica is on the Blue team, what is the probability that she drew the number 10?

9. Cheryl and Jerome are testing the pH of 32 unknown substances as part of science class. Cheryl and Jerome split the work between them as shown in the table. Find each probability.

a) The substance is acidic, given that Cheryl is testing it.

b) Jerome is testing the substance, given that it is basic.

10. Derek Jeter, a player for the New York Yankees, had 206 hits in the 2007 MLB season and has 2356 career hits. The table below shows the number of singles, doubles, triples and home runs Jeter had in the 2007 season and during his career. Find each probability.

a) A hit was a home run, given that the hit happened in the 2007 season.

b) A hit was a double, given that the hit happened during Jeter’s career.

11. At Bob’s BarBQ Pit, 25% of customers order a cheeseburger. If 4% of the customers’ that order a cheeseburger also order a Root Beer, find the probability that someone who orders a cheeseburger also orders a Root Beer.

12. A fair ten-sided die is rolled. Find the conditional probability that the number rolled was less than 5, given that the number rolled was even.

13. A die is rolled. Determine the probability that it is a 5 given that it is greater than 3.

For #14-17, use the data in the following table, which shows the results of a survey of 2000 gamers about their favorite home video game systems, organized by age group. If a survey participant is selected at random, determine the probability of each of the following:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | SonyPlayStation 2 | MicrosoftXbox | NintendoGameCube | SegaDreamcast | Total |
| 0-12 | 63 | 84 | 55 | 51 | 253 |
| 13-18 | 105 | 139 | 92 | 113 | 449 |
| 19-24 | 248 | 217 | 83 | 169 | 717 |
| 25+ | 191 | 166 | 88 | 136 | 571 |
|  | 607 | 606 | 318 | 469 | 2000 |

14. The participant prefers the Sony PlayStation 2 system.

15. The participant prefers the Microsoft Xbox, given that the person is between the age of 13 and 18.

16. The participant prefers Nintendo GameCube, given that the person is between the ages of 13 and 24.

17. The participant is under 12 years of age, given that the person prefers the Sega Dreamcast machine.