



Practice

11.1 A Introduction to Probability

Find the probability of each event.

1. A blue card is drawn at random from a bag containing 2 white cards, 1 red card, and 7 blue cards. _____
2. Frederique, who arrives home at 6:42 P.M., is home to receive a call that can come at any time between 6:40 and 6:50. _____
3. A letter chosen at random from the letters of the word *permutation* is a vowel. _____
4. A card chosen at random from a standard 52-card deck is a heart or a diamond. _____
5. A card chosen at random from a standard deck is not an 8 or an ace. _____
6. A number cube is rolled, and a number greater than 3 and less than 6 results. _____
7. A letter chosen at random from the alphabet is not one of the 5 standard vowels. _____
8. A point on a 12-inch ruler is chosen at random and is located within an inch of an end of the ruler. _____

A spinner is divided into three colored regions. You spin the spinner a total of 150 times. The results are recorded in the table. Find the experimental probability of each event.

| | |
|--------|----|
| green | 42 |
| yellow | 65 |
| pink | 43 |

9. green _____
10. yellow _____
11. pink _____
12. not pink _____
13. not yellow _____

Find the number of possible license plate numbers (with no letters or digits excluded) for each of the following conditions:

14. 6 digits _____
15. 2 letters followed by 3 digits _____
16. 4 letters followed by 3 digits _____
17. 5 digits followed by 2 letters _____
18. 2 digits followed by 2 letters followed by 2 digits _____

Answers:

1. $x = -1, 4$

2. $16 - 30i$

3. $\frac{\log 6}{\log 2} - 1$

4. 9

5. $f^{-1}(x) = \frac{3x+1}{2}$

6. $(5x + 2y)(25x^2 - 10xy + 4y^2)$

7. $(3, 0) (-2, 0)$

8. $a_n = 25 - 6(n - 1)$

9. $\frac{\sqrt[3]{9x^2y}}{3x}$

10. $1 \pm 3i$

11. $4x + 3y = 17$