

Name: _____ Period: _____ Date: _____

Theoretical and Experimental Probability Assignment

Solve problems involving Theoretical Probability.

1. What is the probability of drawing a jack in 52 deck of card?

2. What is the probability of getting an even number in tossing a die?

3. What is a probability of drawing a red card in a 52 deck of card?

4. What is the probability of getting a number greater than 4 in tossing a die?

In rolling a pair of dice

5. What is the probability of getting a sum of 6?

6. What is the probability of getting a sum less than 6?

7. What is the probability of getting greater than 10?

8. What is the probability of getting a number less than 5?

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Theoretical and Experimental Probability Assignment

In tossing a pair of coin

9. What is the probability of getting both heads?

10. What is the probability of getting a head and a tail?

11. What is the probability of not getting both tails?

There are 5 green balls, 3 blue balls and 2 red balls inside a box.

12. What is the probability of drawing a green ball?

13. What is a probability of a blue ball?

14. What is the probability of not getting a red ball?

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Theoretical and Experimental Probability Assignment

From a deck of cards, three cards are drawn at random. What is the probability that:

15. All three are kings?

16. All three spades?

17. All three black?

18. What is the probability of getting a face card?

In tossing 3 coins

19. What is the probability of at least 2 heads?

20. What is the probability of at most 2 tails?

Theoretical and Experimental Probability Assignment

Answer:

Solve problems involving Theoretical Probability.

1. What is the probability of drawing a jack in 52 deck of card?

$$P(E) = 4/52 \text{ or } 1/13$$

2. What is the probability of getting an even number in tossing a die?

$$P(E) = 3/6 \text{ or } 1/2$$

3. What is a probability of drawing a red card in a 52 deck of card?

$$P(E) = 26/52 \text{ or } 1/2$$

4. What is the probability of getting a number greater than 4 in tossing a die?

$$P(E) = 2/6 \text{ or } 1/3$$

In rolling a pair of dice

5. What is the probability of getting a sum of 6?

$$n(S) = 36; n(E) = \{(2,4),(4,2),(5,1),(1,5),(3,3)\} = 5, P(E) = 5/36$$

6. What is the probability of getting a sum less than 6?

$$n(S) = 36; n(E) = \{(1,4),(4,1),(2,3),(3,2),(2,2),(1,2),(2,1),(1,1),(3,1),(1,3)\} = 10, P(E) = 10/36 \text{ or } 5/18$$

7. What is the probability of getting greater than 10?

$$n(S) = 36; n(E) = \{(5,6),(6,5),(6,6)\} = 3, P(E) = 3/36 \text{ or } 1/12$$

8. What is the probability of getting a number less than 5?

$$n(S) = 52; n(E) = 16, \text{ then } P(E) = 16/52 \text{ or } 4/13$$

In tossing a pair of coin

9. What is the probability of getting both heads?

$$n(S) = 4; n(E) = 1, \text{ then } P(E) = 1/4$$

10. What is the probability of getting a head and a tail?

$$n(S) = 4; n(E) = 2, \text{ then } P(E) = 2/4 \text{ or } 1/2$$

11. What is the probability of not getting both tails?

$$n(S) = 4; n(E) = 3, \text{ then } P(E) = 3/4$$

Theoretical and Experimental Probability Assignment

There are 5 green balls, 3 blue balls and 2 red balls inside a box.

12. What is the probability of drawing a green ball?

$$n(S) = 10; n(E) = 5, \text{ then } P(E) = 5/10 \text{ or } 1/2$$

13. What is a probability of a blue ball?

$$n(S) = 10; n(E) = 3, \text{ then } P(E) = 3/10$$

14. What is the probability of not getting a red ball?

$$n(S) = 10; n(E) = 8, \text{ then } P(E) = 8/10$$

From a deck of cards, three cards are drawn at random. What is the probability that:

15. All three are king?

$$n(S) = {}_{52}C_3 = 22100$$

$$n(E) = {}_4C_3 = 4$$

$$P(E) = 4/22100 \text{ or } 1/5525$$

16. All three spade?

$$n(S) = {}_{52}C_3 = 22100$$

$$n(E) = {}_{13}C_3 = 286$$

$$P(E) = 286/22100 \text{ or } 11/850$$

17. All three black?

$$n(S) = {}_{52}C_3 = 22100$$

$$n(E) = {}_{26}C_3 = 2600$$

$$P(E) = 2600/22100 \text{ or } 2/17$$

18. What is the probability of getting a face card?

$$n(S) = 52; n(E) = 16, \text{ then } P(E) = 16/52 \text{ or } 4/13$$

In tossing 3 coins

19. What is the probability of at least 2 heads?

$$n(S) = 8; n(E) = 4, \text{ then } P(E) = 4/8 \text{ or } 1/2$$

20. What is the probability of at most 2 tails?

$$n(S) = 8; n(E) = 6, \text{ then } P(E) = 6/8 \text{ or } 3/4$$