Determining Probability

$$Remember: probability=\frac{number of desired possibilities}{total number of possibilities}.$$

Determine the probability of an event **as a simplified fraction, decimal and percent.**

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| 1. In a deck of 52 cards, there are 4 Jacks. Two of the Jacks are black and two are red. What is the probability that a red Jack will be chosen at random from the deck? | 2. In a deck of 52 cards, there are 12 face cards. Out of the 26 black cards in the deck, 6 of them are face cards. What is the probability that a card chosen at random will be a face card or a black card? | 3. In a deck of 52 cards, there are 36 number cards and four aces. What is the probability that a card chosen at random will not be a number card or an ace? |
| 4. The 12 face cards are removed from a deck of 52 cards. In the deck, there are four of each card (ace & numbers 2-10). What is the probability of choosing a 5 card at random? | 5. The 12 face cards are removed from a deck of 52 cards. In the deck, there are four of each card (ace & numbers 2-10). If 3 of the face cards are put back into the deck, what is the probability of choosing a 5 card at random? | 6. There are 26 black cards in a deck of 52. There are 36 number cards. Of those number cards, 18 are black. What is the probability that a card chosen at random will not be a black number card?  |
| 7. When rolling a 6-sided number cube (#1-6), what is the probability of rolling an even number? | 8. When rolling a 6-sided number cube (#1-6), what is the probability of rolling a multiple of 3? | 9. When rolling a 6-sided number cube (#1-6), what is the probability of rolling a number that is either odd or a factor of 6? |
| 10. When rolling a 6-sided number cube (#1-6), what is the probability of rolling a number that is not a 4? | 11. When rolling a 6-sided number cube (#1-6), what is the probability of rolling a 7? | 12. When rolling a 6-sided number cube (#1-6), what is the probability of rolling a number that is not 7? |
| 13. On a fair spinner, there are 8 equal sections: 3 are red, 2 are blue, 2 are black, and 1 is white. What is the probability of the spinner landing on red? | 14. On a fair spinner, there are 6 equal sections: Green1, Green2, Green 3, Blue1, Blue2, and Blue 3.What is the probability of the spinner landing on a green or an odd number? | 15. On a fair spinner, there are 4 equal sections: 1A, 1B, 1C, and 1D. What is the probability of the spinner landing on a 1? |
| 16. In a bag of marbles, there are 7 striped marbles, 2 solid marbles, and 1 swirled marble. What is the probability of randomly choosing a solid marble? | 17. In a bag of marbles, there are 12 purple marbles, 10 black marbles, and 3 yellow marbles. What is the probability of choosing a black or purple marble? | 18. In a bag of marbles, there are 8 green marbles, 2 clear marbles, and 4 blue marbles. What is the probability of choosing a marble that is not green? |