

Possible Solution

Amanda used a standard deck of 52 cards and selected a card at random. She recorded the suit of the card she picked, and then replaced the card. The results are in the table below.

Clubs	
Diamonds	
Hearts	
Spades	

Based on her results, what is the experimental probability of selecting a heart? What is the theoretical probability of selecting a heart?

Experimental probability is based on the actual results in the data table.

Theoretical probability is based on the sample space of the deck of cards.

$$P(\text{hearts}) = \frac{\text{favorable outcomes}}{\text{possible outcomes}}$$

Experimental Probability

$$P(\text{hearts}) = \frac{\text{\# of times Amanda drew a heart}}{\text{total \# of times she picked a card}}$$

$$P(\text{hearts}) = \frac{9}{30}$$

Theoretical Probability

$$P(\text{hearts}) = \frac{\text{\# of hearts in the deck}}{\text{total \# of cards in the deck}}$$

$$P(\text{hearts}) = \frac{13}{52}$$