Assignment

Write

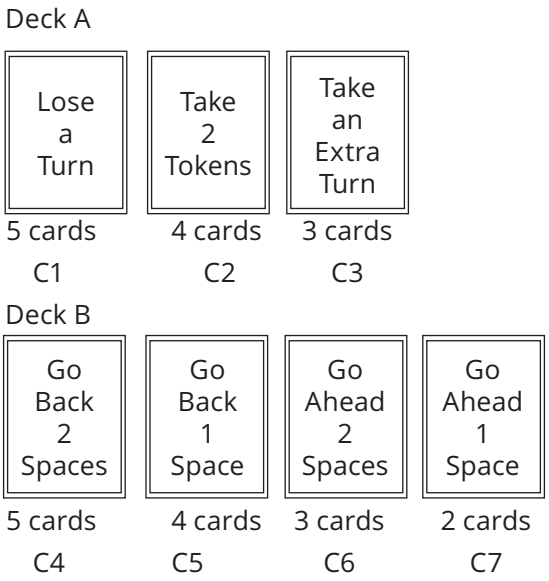
1. In symbols, what is the Addition Rule for Probability?
2. When should you use the Addition Rule for Probability?

Remember

If two compound events are combined by the word *or*, you can add the probabilities of each event occurring separately and subtract the probability of both events occurring.

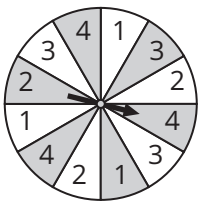
Practice

1. Two decks of cards are used for a game.



   a. A player chooses one card from Deck A and one card from Deck B. What is the probability that the player will choose a C2 card from the first deck or a C6 card from the second deck?
   b. A player chooses one card from Deck A and one card from Deck B. What is the probability that the player will choose a C3 card from the first deck or a C5 card from the second deck?
   c. A player chooses two cards from Deck A. What is the probability that the player will choose a C1 card first or a C2 card second?
   d. A player chooses two cards from Deck B. What is the probability that the player will choose a C5 card first or a C4 card second?

2. Consider the spinner and the set of tokens shown in the figure.



   a. A player spins the spinner one time and then randomly chooses a token. What is the probability that the spinner will land on a 2 or the player will choose a pyramid?
   b. A player spins the spinner two times. What is the probability that the spinner will land on a number greater than 1 the first time or on a number greater than 2 the second time?
   c. A player spins the spinner one time and then randomly chooses a token. What is the probability that the spinner will not land on a 2 or the player will not choose a disk?
   d. A player spins the spinner two times. What is the probability that the spinner will land on a 1 the first time or on a 4 the second time?
   e. A player spins the spinner one time and then randomly chooses a token. What is the probability that the spinner will land on a 2 or the player will choose a cube?

Stretch

1. Two decks of cards are used for a game.
   a. A player chooses one card from Deck A and one card from Deck B. Write an organized list to represent the sample space in this situation.
   b. Use the sample space to determine the probability that a Queen is selected from Deck A or a 10 is selected from Deck B.
   c. Use the Addition Rule for Probability to determine the probability that a Queen is selected from Deck A or a 10 is selected from Deck B. Show your work.

Deck A

K	Q	J
3 cards	2 cards	1 card

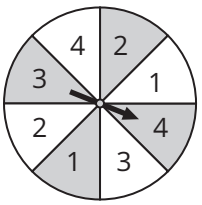
Deck B

10	9
3 cards	2 cards

2. A deck of cards contains only face cards. There are four kings, four queens, and four jacks.
   a. A card is randomly selected. What is the probability the card is a queen?
   b. Two cards are randomly selected. If the first card selected is a queen and the card is replaced in the deck, what is the probability the second card is a queen?
   c. Two cards are randomly selected. If the first card selected is a queen and the card is not replaced in the deck, what is the probability the second card is a queen?
   d. Two cards are randomly selected. If the first card selected is a queen and the card is replaced in the deck, what is the probability the second card is a king?
   e. Two cards are randomly selected. If the first card selected is a queen and the card is not replaced in the deck, what is the probability the second card is a king?

Review

1. A board game includes a spinner and a deck of cards. A player spins the spinner once and then randomly chooses a card. What is the probability that the spinner will land on a 3 and the player will choose a card that says, "Go Back 1 Space"?



PICK A CARD	LOSE A TURN	GO BACK 1 SPACE	GO AHEAD 1 SPACE
6 cards	4 cards	3 cards	2 cards

2. A school district has two schools, School A and School B. The drawing shows the number of students in each class that had perfect attendance last year. The superintendent of the schools randomly chooses two students from School B. What is the probability that both students are from Class 6?

School A

Class 1	Class 2	Class 3
7 students	5 students	4 students

School B

Class 4	Class 5	Class 6	Class 7
8 students	6 students	3 students	2 students

3. Given $\sin\theta = -\frac{5}{8}$ in Quadrant III, determine $\cos\theta$ and $\tan\theta$.
4. Given the equation $x = 2(y + 1)^2 - 4$. Determine the value of p, the coordinates of the vertex and focus, and the equations for the axis of symmetry and directrix. Then graph the parabola and describe the concavity.
5. Determine the solution(s) for each equation.
   a. $2w^2 + 7w + 6 = 0$
   b. $x^2 - 8x - 9 = 0$