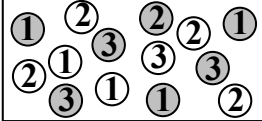
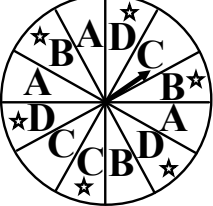
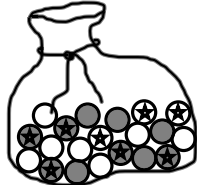
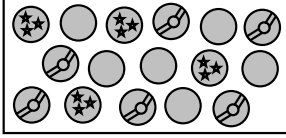


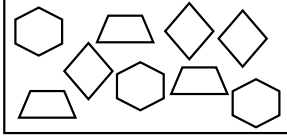



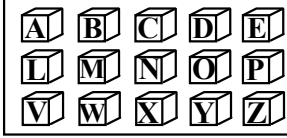
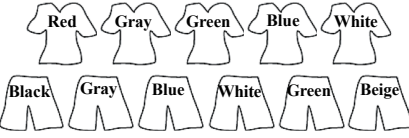
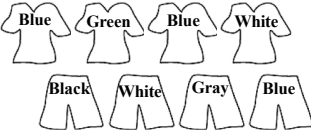
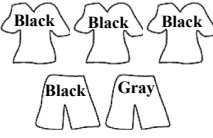
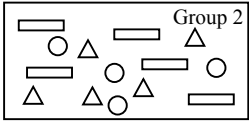
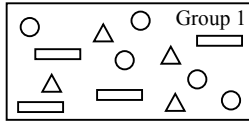


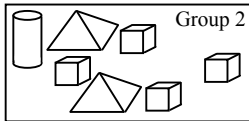
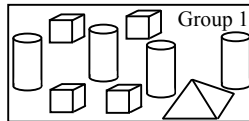
Integrated II Unit 10 Study Guide

<p>1. What is the sample space?</p> 	<p>12. What is the sample space?</p> 	<p>23. What is the sample space?</p> 
<p>2. Given the model below</p>  <p>a. What is the probability of randomly selecting ?</p> <p>b. What is the probability of randomly selecting ?</p> <p>c. Is the model uniform or non-uniform? Explain your reasoning.</p> <p>d. What is the probability of choosing a ball without stars?</p>	<p>13. Given the model below</p>  <p>a. What is the probability of randomly selecting ?</p> <p>b. What is the probability of randomly selecting ?</p> <p>c. Is the model uniform or non-uniform? Explain your reasoning.</p> <p>d. What is the probability of choosing a shape that is not ?</p>	<p>24. Given the model below</p>  <p>a. What is the probability of randomly selecting a vowel?</p> <p>b. What is the probability of randomly selecting a consonant?</p> <p>c. Is the model uniform or non-uniform? Explain your reasoning.</p> <p>d. What is the probability of choosing a letter that is not a vowel?</p>
<p>3. You have 5 tee-shirts and 6 pair of shorts in a drawer, as shown in the diagram. You randomly choose one shirt and one pair of shorts from the drawer.</p>  <p>a. Use the Counting Principle to calculate the size of the sample space. Show your calculations.</p> <p>b. What is the probability of choosing a green shirt and a black pair of shorts?</p>	<p>14. You have 4 tee-shirts and 4 pair of shorts in a drawer, as shown in the diagram. You randomly choose one shirt and one pair of shorts from the drawer.</p>  <p>a. Use the Counting Principle to calculate the size of the sample space. Show your calculations.</p> <p>b. What is the probability of choosing a blue shirt and a gray pair of shorts?</p>	<p>25. You have 3 tee-shirts and 2 pair of shorts in a drawer, as shown in the diagram. You randomly choose one shirt and one pair of shorts from the drawer.</p>  <p>a. Use the Counting Principle to calculate the size of the sample space. Show your calculations.</p> <p>b. What is the probability of choosing a black shirt and any pair of shorts?</p>

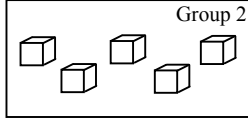
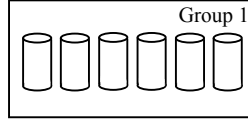
4. You randomly choose a shape from each group. What is the probability that both will be rectangles? Show your calculations.



15. You randomly choose a shape from each group. What is the probability that both will be cylinders? Show your calculations.



26. You randomly choose a shape from each group. What is the probability that both will be cylinders? Show your calculations.



5. Suppose you randomly choose a marble from a bag of 20 marbles. Show your calculations in answering the questions.



- a. You draw out a marble, replace it, and then draw out another. What is the probability of choosing a shaded marble and then an unshaded one?

- b. Suppose instead that you do not replace the first marble. What is the probability of choosing a shaded marble and then an unshaded one?

16. Suppose you randomly choose a marble from a bag of 25 marbles. Show your calculations in answering the questions.



- a. You draw out a marble, replace it, and then draw out another. What is the probability of choosing an unshaded marble and then a shaded one?

- b. Suppose instead that you do not replace the first marble. What is the probability of choosing an unshaded marble and then a shaded one?

27. Suppose you randomly choose a marble from a bag of 10 marbles. Show your calculations in answering the questions.



- a. You draw out a marble, replace it, and then draw out another. What is the probability of choosing a shaded marble and then a shaded marble?

- b. Suppose instead that you do not replace the first marble. What is the probability of choosing a shaded marble and then a shaded marble?

6. There are 400 tickets in a raffle. You buy 12 tickets. One winning ticket will be randomly chosen.

- a. What is the theoretical probability that you will win the raffle?

- b. Out of 400 numbers generated, the numbers on your raffle tickets appear 6 times. Based on this simulation, what is the experimental probability that you will win the raffle?

- c. Compare the theoretical probability of winning to the experimental.

17. There are 350 tickets in a raffle. You buy 3 tickets. One winning ticket will be randomly chosen.

- a. What is the theoretical probability that you will win the raffle?

- b. Out of 350 numbers generated, the numbers on your raffle tickets appear 15 times. Based on this simulation, what is the experimental probability that you will win the raffle?

- c. Define theoretical probability in comparison to experimental probability.

28. There are 1000 tickets in a raffle. You buy 950 tickets. One winning ticket will be randomly chosen.

- a. What is the theoretical probability that you will win the raffle?

- b. Out of 1000 numbers generated, the numbers on your raffle tickets appear 1000 times. Based on this simulation, what is the experimental probability that you will win the raffle?

- c. Why is the theoretical probability different from the experimental probability?

7. Oceanview High School.

		Gender		
		Male	Female	Total
Sports Participation	Plays sports	105	53	158
	Doesn't play sports	30	44	74
	Total	135	97	232

a. Name the two variables displayed in the table.

b. How many of the students are male and do not play sports?

c. How many of the students play sports?

d. If a student is selected at random, what is the probability that he or she plays sports?

e. What is the probability that a randomly selected student is a male or plays sports?

f. What is the probability that a randomly selected student is a male, given that he plays sports?

18. Northvale Junior High School.

		Grade		
		7 th	8 th	Total
Preferred Hobby	Art	34	36	70
	Music	27	58	85
	Books	16	29	45
	Sports	43	37	80
	Total	120	160	280

a. Name the two variables displayed in the table.

b. How many of the students are in 8th grade and prefer art?

c. How many of the students prefer sports?

d. If a student is selected at random, what is the probability that he or she is in 9th grade?

e. What is the probability that a randomly selected student is an 8th grader who prefers art?

f. What is the probability that a randomly selected student is a 7th grader, given that he or she prefers music?

29. Cedar Hills High School

		Club Participation		
		In a Club	Not in a Club	Total
Grade	Freshmen	117	17	134
	Sophomores	142	41	183
	Juniors	114	37	151
	Seniors	102	50	152
	Total	475	145	620

a. Name the two variables displayed in the table.

b. How many of the students are freshmen and in a club?

c. How many of the students are juniors?

d. If a student is selected at random, what is the probability that he or she is in a club?

e. What is the probability that a randomly selected student is either in a club or not in a club?

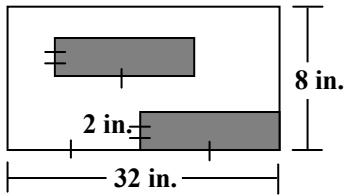
f. What is the probability that a randomly selected student is a sophomore, given that he or she is not in a club?

8. Suppose you must choose a 5-digit code for your locker using the digits 0 through 9, and no digit can be used more than once. How many 5-digit codes are possible?

19. Suppose you must choose a 4-digit code for your locker using the digits 0 through 9, and no digit can be used more than once. How many 4-digit codes are possible?

30. Suppose you must choose a 6-digit code for your locker using the digits 0 through 9, and no digit can be used more than once. How many 6-digit codes are possible?

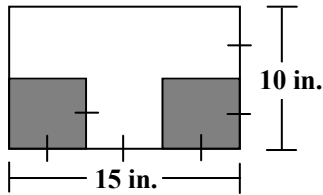
9. An archery target has two scoring rectangles inside a rectangle.



a. What are the areas of the two shaded regions?

b. What is the probability of an arrow hitting a random spot on the target and landing in one of the scoring rectangles?

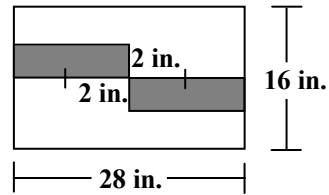
20. An archery target has two scoring rectangles inside a rectangle.



a. What are the areas of the two shaded regions?

b. What is the probability of an arrow hitting a random spot on the target and landing in one of the scoring rectangles?

31. An archery target has two scoring rectangles inside a rectangle.



a. What are the areas of the two shaded regions?

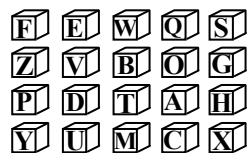
b. What is the probability of an arrow hitting a random spot on the target and landing in one of the scoring rectangles?

10. There are 11 players on a volleyball team, but only 6 players can be on the court to start a match. How many different starting lineups are possible?

21. There are 10 players on a water polo team, but only 7 players can be in the water to start the game. How many different starting lineups are possible?

32. There are 25 players on a tennis team, but only 2 players can play the first doubles match. How many different starting lineups are possible?

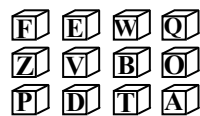
11. You randomly choose 2 blocks from the set.



a. If you choose two blocks at the same time, what is the probability that both blocks will have a vowel on them?

b. If you choose two blocks at the same time, what is the probability that both blocks will have a T on them?

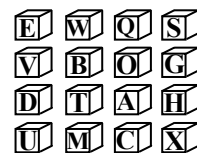
22. You randomly choose 2 blocks from the set.



a. If you choose two blocks at the same time, what is the probability that both blocks will have a consonant on them?

b. If you choose two blocks at the same time, what is the probability that both blocks will have a vowel on them?

33. You randomly choose 2 blocks from the set.



a. If you choose two blocks at the same time, what is the probability that the first block will have a B on it and the second block will have a vowel on it?

b. If you choose two blocks at the same time, what is the probability that both blocks will have a letter on them?