Geometry Ch. 13
Review

Quiz 13.5-13.6 today
Test Ch. 13 Mon.

13-6 Probabilities of Mutually Exclusive Events

24. ROLLING DICE Two dice are rolled. What is the probability that the sum of the numbers is 7 or 11? $= \frac{2}{9}$

25. CARDS A card is drawn from a deck of cards. Find the probability of drawing a 10 or a diamond.

$\frac{4}{52} + \frac{13}{52} - \frac{1}{52} = \frac{16}{52}$

$\frac{4}{13}$

$\frac{6}{36} + \frac{2}{36} = \frac{8}{36}$

	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

26. **RAFFLE** A bag contains 40 raffle tickets numbered 1 through 40.

$\frac{20}{40} + \frac{4}{40} - \frac{2}{40} = \frac{22}{40}$

a. What is the probability that a ticket chosen is an even number or less than 5?

b. What is the probability that a ticket chosen is greater than 30 or less than 10?

$\frac{10}{40} + \frac{9}{40} = \frac{19}{40}$

13-5 Probabilities of Independent and Dependent Eve

21. MARBLES A box contains 3 white marbles and 4 black marbles. What is the probability of drawing 2 black marbles and 1 white marble in a row without replacing any marbles?

22. CARDS Two cards are randomly chosen from a standard deck of cards with replacement. What is the probability of successfully drawing, in order, a three and then a queen?

23. PIZZA A nationwide survey found that 72% of people in the United States like pizza. If 3 people are randomly selected, what is the probability that all three like pizza?

$\frac{4}{7} \cdot \frac{3}{6} \cdot \frac{3}{5} = \frac{36}{210} = \frac{6}{35}$

$\frac{4}{52} \cdot \frac{4}{52} = \frac{16}{2704} \approx 0.6\% = \frac{1}{169}$

$\frac{72}{100} \cdot \frac{72}{100} \cdot \frac{72}{100} = \frac{373248}{1000000} \approx 37\%$

13-4 Simulations

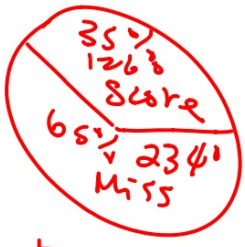
For each of the following, describe how you would use a geometric probability model to design a simulation.

18. **POLO** Max scores 35% of the goals his team earns in each water polo match.

19. **BOOKS** According to a survey, people buy 30% of their books in October, November, and December, 22% during January, February, and March, 23% during April, May, and June, and 25% during July, August, and September.

Score 35%

Miss

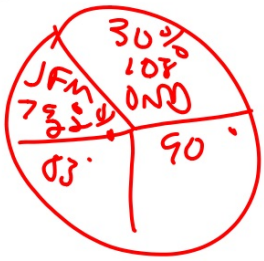


108° 30% O/N/D

79° 22% J F M

83 23% A M J

90 25% J A S

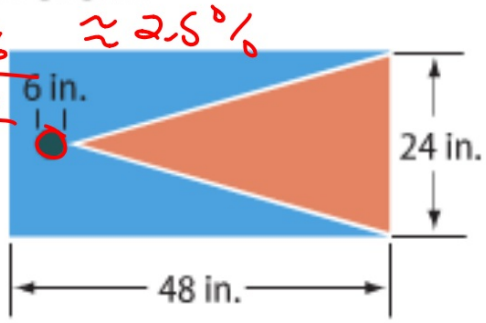


13-3 Geometric Probability

16. GAMES Measurements for a beanbag game are shown. What is the probability of each event?

a. P(hole) $\frac{\text{success}}{\text{area}}$ $\frac{28.26}{1152}$ $\approx 2.5\%$

b. P(no hole) $100 - 2.5$ 97.5%



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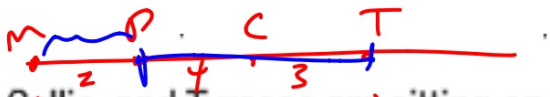

17. **POOL** Morgan, Phil, Callie, and Tyreese are sitting on the side of a pool in that order. Morgan is 2 feet from Phil. Phil is 4 feet from Callie. Callie is 3 feet from Tyreese. Oscar joins them.

a. Find the probability that Oscar sits between Morgan and Phil.

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b. Find the probability that Oscar sits between Phil and Tyreese.

$\frac{1}{10} \cdot \frac{1}{9} \cdot \frac{1}{8} = \frac{1}{720}$

14. DANCE The dance committee consisted of 10 students. The committee will select three officers at random. What is the probability that Alice, David, and Carlene are selected?

15. COMPETITION From 32 students, 4 are to be randomly chosen for an academic challenge team. In how many ways can this be done?

$32C_4 = \frac{32 \cdot 31 \cdot 30 \cdot 29}{4 \cdot 3 \cdot 2 \cdot 1}$

13-1 Representing Sample Spaces

11. **POPCORN** A movie theater sells small (S), medium (M), and large (L) size popcorn with the choice of no butter (NB), butter (B), and extra butter (EB). Represent the sample space for popcorn orders by making an organized list, a table, and a tree diagram.

12. **SHOES** A pair of men's shoes comes in whole sizes 5 through 13 in navy, brown, or black. How many different pairs could be selected?