

11-5 Standardized Test Prep

Probability Models

Multiple Choice

For Exercises 1–3, choose the correct letter.

- There are 20 contestants in a talent contest. The contest organizer wants to choose 4 contestants at random to appear in the first round. Which strategy would result in the fairest decision?
 - The organizer chooses the first 4 contestants to sign up for the contest.
 - The organizer lists the contestants' names in alphabetical order and chooses the first 4 names.
 - The organizer writes each contestant's name on a slip of paper and then arranges the names from shortest to longest. Then she chooses the 4 shortest names.
 - The organizer assigns each contestant a number and spins a spinner numbered 1 to 20. She picks the contestants with the first 4 different numbers that she spins.

- The head of an astronaut-training program wants to choose 3 of the 32 trainees at random to take a zero-gravity flight. He assigns a two-digit number from 01 to 32 to each trainee. Based on the line of the random number table below, what are the numbers of the trainees who will take the flight?

79577 01104 76390 49032 91662 36151 59491 03051 45469 24460

- F 01, 03, 10
 G 03, 05, 15
 H 04, 11, 32
 I 05, 07, 09

- A company is testing the effectiveness of a new lotion to fight acne. In the test, 60 volunteers use the new lotion, and 60 volunteers do not use any lotion. Based on the contingency table, what is the approximate probability that a volunteer showed improvement, given that he or she used the lotion?

	Showned improvement	No improvement	Totals
Used lotion	32	28	60
Did not use lotion	12	48	60
Totals	44	76	120

- A 27%
 B 37%
 C 53%
 D 73%

Short Response

- Refer back to Exercise 3. The company decides to sell the lotion as an effective way to treat acne. Based on the results of the test, did the company make a good decision? Explain.