INQUIRY STEMS FROM MYSTERY!

Short Mystery You Solve with Math…

Ice Cream, Anyone?

"Welcome to Cora's Ice Cream Parlor," a lady said from behind the counter.

She was glad to fill up seats in her ice cream shop on a chilly day, but she hadn't counted on all these energetic middle school girls celebrating the end of their fall field hockey season.

"Sir, you phoned earlier to reserve 21 seats for your team, right?" she said to the coach, Mr. Lee. "We're all set up for you," she said, pointing to tables that had been set with spoons and empty bowls.

He had told the girls he would treat them to two scoops of ice cream each.

"Coach Lee," said Claire, one of the players. "You're always saying that each one of us is unique, aren't you?"

"Yes," he said slowly, not sure he wanted to know what was coming next.

"So, every one of us wants something different from anyone else," she said, and all the other girls started laughing.

"Boy, they're a picky bunch, aren't they?" Cora said. "I don't even have 21 different flavors, I only have 12. What can I do?"

STOP

Mystery No. 1 (page 145) from
One Minute Mysteries: 65 Short Mysteries You Solve With Math!

INQUIRY STEMS FROM MYSTERY!

Answer to…

Ice Cream, Anyone?

"It's a matter of how many combinations are possible. To find that, you add the number of samples to each number below it," Claire said to Cora.

"I'm not following you," Cora said.

"For example, if you had three flavors, that would be 3 plus 2 plus 1, making 6 possible combinations," she said. "Say you have vanilla, chocolate and strawberry. To use all the possible combinations of two scoops, you'd have one bowl with vanilla and chocolate, a second with chocolate and strawberry, a third with vanilla and strawberry, and three more bowls that have two scoops of the same flavor. That's 6 different combinations for three samples. It works the same way with each additional sample flavor you add. With four flavors, you'd have 10 possible combinations—4 plus 3 plus 2 plus 1. With five flavors, it is 15 possible combinations—5 plus 4 plus 3 plus 2 plus 1. To get 21 possible combinations, you actually need six flavors—6 plus 5 plus 4 plus 3 plus 2 plus 1 is 21."

"For that explanation, young lady," said Cora, "you get the first choice of flavors."

Answer to Mystery No. 1 (page 146) from
One Minute Mysteries: 65 Short Mysteries You Solve With Math!

Ice Cream, Anyone? Activity

How many different flavors will Cora need to make 21 different flavor combinations? Before you begin, predict how many different flavors she will need. Remember: Two scoops of the same flavor is a combination. Changing the order of scoops is NOT a new combination.

Prediction: _____ ice cream flavors

Hint: Use the same color for the bottom scoop in a row of cones. Choose a new color for the bottom scoop of the next row.
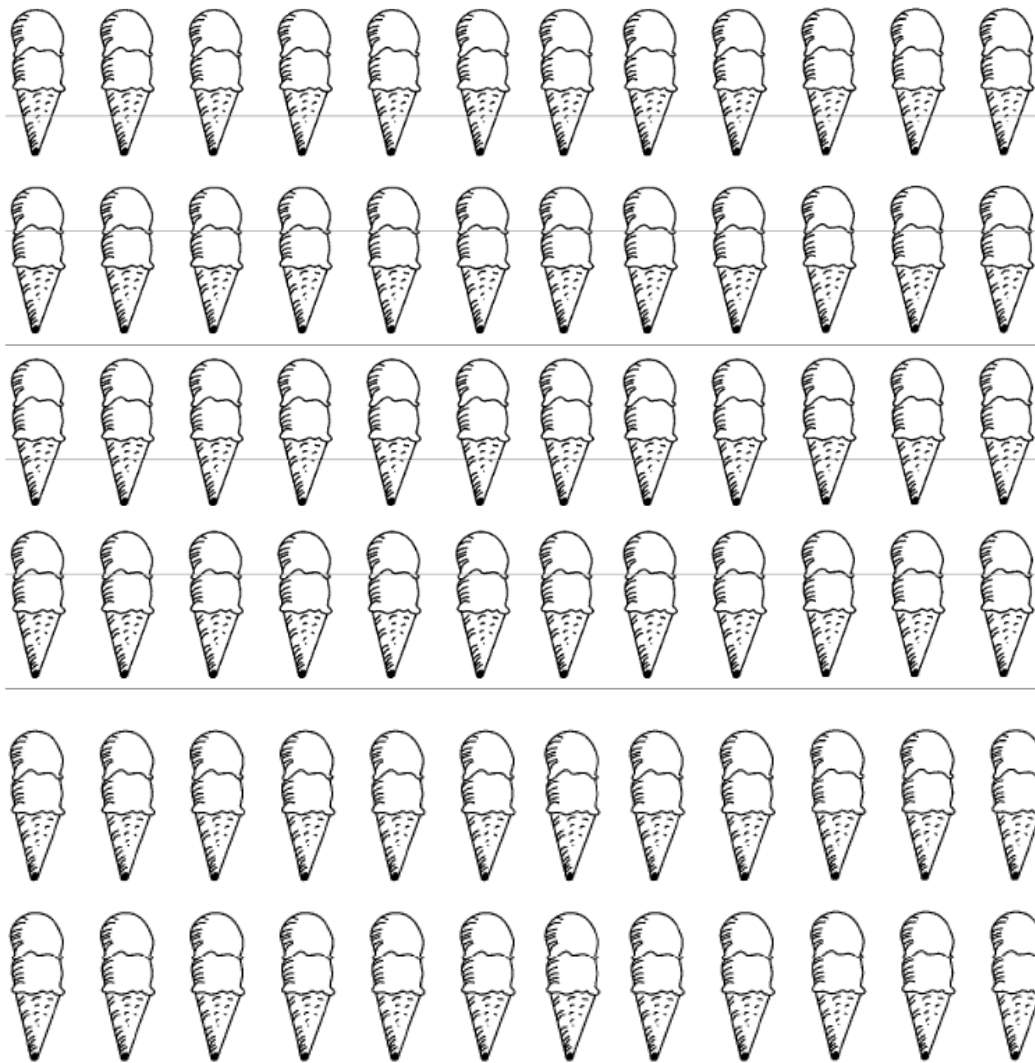
The actual number of flavors is_____.

Mystery No. 1 (page 145) from
One Minute Mysteries: 65 Short Mysteries You Solve With Math!