

Assignment

Predicting the Future using Modular Arithmetic

JOE'S DINER

Joe's Diner has become your favorite lunch spot because the food is soooo good! In fact, you have made it a point to bring clients to Joe's Diner for lunchtime meetings. Joe has 4 different lunch specials (see chart below) that he offers on a continuously rotating basis (i.e. special #1, special #2, special #3, special #4, special #1, special #2, special #3, etc.). Joe begins every year with special #1 – so every January 1st special #1 is offered. Joe is also a workhorse and never closes – his restaurant is open every day of every year! Below is a listing of the specials.

Special #1: Garden Salad, Baked Ham, Green Beans & Mashed Potatoes
Special #2: Ceasar Salad, Pineapple Chicken, Carrots & Broccoli
Special #3: Garden Salad, Savory Meatloaf, Asparagus & Garlic New Potatoes
Special #4: Ceasar Salad, Pine Nut Salmon, Rice Pilaf & Snow Peas

Predict the Future!

1. What will be the special offered on February 3rd?
2. What kind of salad will be included on the special for April 20th?
3. You have a lunch meeting with a new client on October 25th and want to take the client to Joe's for a business lunch. However, you have found out that your new client is following a strict Atkins Diet – no carbs! Will you be able to offer one of Joe's oh so tasty specials to your client or should you reschedule your lunch meeting date?
4. How many days are there until the cycle repeats?

FASHION SENSIBILITIES

Robb has decided to introduce some method into his madness about his clothing – especially in his choice of footwear, pants, and T-shirts. He made a list (see the adjacent chart) of the clothes he decided to wear. On September 1 he wore his running shoes, a red T-shirt, and jeans. The next day he replaced each item with the item below it on his list. Thus on September 2 he wore sandals, a blue T-shirt, and cargo pants. When he reached the bottom of one column, he started again at the top.

Footware	T-Shirts	Pants
Running Shoes	Red	Jeans
Sandals	Blue	Cargo Pants
	Green	Shorts
	Yellow	
	White	

Predict the Future!

5. What should Robb be wearing on September 21st?
6. What should Robb be wearing on October 15th?
7. On which day(s) in September should Robb be wearing sandals, a red T-shirt, and shorts?
8. On which day(s) in October should Robb be wearing running shoes, a white T-shirt, and jeans?
9. Will Robb be able to wear a different outfit for every day in September? Explain your answer.