6JV:

1. Shirley goes to the store and buys 3 bags of Doritos, 4 bags of Sunchips, and 5 bags of potato chips. What is the probability that she reaches into the shopping bag and randomly selects a bag of Doritos?

2. Jose is five feet and four inches tall, Milani is five feet and 6 inches tall, and Oscar is six feet and two inches tall. If Jose stands on Oscar's head and then Milani stands on Jose's head, how many inches tall are all three put together?

3. Insert the symbols "+" and "-" into the following equation to make the equation true: 4 9 2 1 4 8 1 = 5

6V:

1. A number gives you the follwing clues about its identity:

- **a. I am a two digit number**
- **b. I am not prime**
- **c. My two digits are not the same**
- **d. I am not a multiple of 2, 3, or 5**

What is the number?

2. The sum of 5 consecutive whole numbers is 90. What is the greatest of these whole numbers?

3. Bill opened a book store and sold 2 books the first day, 6 books the second day, 10 books the third day, 14 books the fourth, 18 the fifth, and so on. Business boomed and the sales pattern continued. On what day did Bill sell 282 books?

7JV:

1. In a basketball tournament, the champion is determined from among 16 competing teams by elimination: as soon as one of the competitors loses a match, they are out of the tournament. How many matches are needed to determine the winner?

2. If x = 4 and y = 3, then what does $(x - y)^2 + 3x$ equal?

3. Ms. Yang, the director of camp *Too Much fun*, has a rule that there needs to be two counselors for every 15 campers. Ms. Yang knows that there will be 195 campers for this upcoming summer. How many counselors will Ms. Yang need to hire?

7V:

1. At this very moment, two hands of the clock are on top of each other. How much time will pass before this occurs again?

2. The first *perfect number* is six, because the proper divisors of 6 add up to 6. That is, 1, 2, and 3 are the only proper divisors of 6, and 1+2+3=6. What is the next smallest perfect number?

3. If a pair of jeans costs $120 and there is a sale for 10% off but an 8% tax, how much do you pay for the jeans?

8JV:

1. How many ways can 5 students sit at a round table? (Assume that there are five chairs at the round table and that each person must sit in a chair alone.)

2. Evaluate to the nearest tenth: $(343/21)^3 + 2(1002-767)^2$

3. What number is six times the sum of its digits?

8V:

1. Given a fair, six-sided die numbered 1 through 6, what is the probability of rolling the doe twice and having the two rolls sum to 8?

2. If light travels at 186,000 miles per second, how far is a *light day*? That is, how far does light travel in one day?

3. If 3^{35} is multiplied out, what is the units (ones) digit of the product?