

Name\_\_\_\_\_

Date\_\_\_\_\_

## Fun with Calendars

### Calendar for October 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Take *any* calendar. Tell your friend to choose 4 days that form a square, for example:

18	19
25	26

Your friend should tell you only the sum of the four days, and you can tell your friend what the four days are.

**How does the puzzle work?**

**The next page tells you how to solve this puzzle using Algebra.**

**Step1:** Call the first number **n**.

**Question 1:** What are the second, third and the fourth numbers?

Hint: Think about how many days in one week?

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**Question 2:** Write an expression that represents the sum of your four numbers, that is, add **n** and the numbers found in *Question 1*. Combine like terms:

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**Step 2:** Call the sum of your four numbers **S**. Then the equation for the sum of four numbers is:

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**Question 3:** Solve the above equation two different ways for the variable **n**.

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**Conclusion:** After your friend selected four days that form a square and told you a sum of these four days, perform the following calculation:

1. **Divide the sum by 4 and then subtract 4.**
2. **That gives you the first number.**
3. **Add 1, 7, and 8 to get the other three numbers.**

### **Example:**

Take the following four numbers from the calendar:

18	19
25	26

The sum = 88

88 divide by 4 is 22;

$$22 - 4 = 18$$

Number 1 = 18

Number 2 =  $18 + 1 = 19$

Number 3 =  $18 + 7 = 25$

Number 4 =  $18 + 8 = 26$