**PRIME MATHgazine Junior!**

**Measure Up!**

Two squares overlap to form a 24” by 40” rectangle. 
Each square is 24” by 24”.

What is the area of the overlapping rectangle shown by the shaded area?

**Sum It Up!**

What is the least number that could be part of a set of consecutive numbers that add to 90?

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Take the PRIME MATHgazine Junior Challenge! Solve the problems and send them in for a chance to become the GREAT STEMATICIAN OF 2013.
Awards in July 2013.
Submissions for this issue are due May 26, 2013.

3 ways to submit:

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Tempe, AZ 85287-5703
### Three 6s

Use three 6s and any operations to make:

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### Three 7s

Use three 7s and any operations to make:

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Even Triangle

Row 1                      2
Row 2                      4   6
Row 3                     8  10  12
Row 4                    14  16  18  20
Row 5                    22  24  26  28  30

The pattern continues.

What is the:
- number of numbers in Row 30?
- last number in Row 20?
- first number of Row 16?
- last number in Row 52?

The Sixth

The average of five numbers is 50. Find a sixth number that would make the average of the six numbers:

<table>
<thead>
<tr>
<th>Sixth Number</th>
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<tbody>
<tr>
<td>a. 55</td>
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<td>b. 60</td>
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<td>c. 50</td>
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<td>d. 45</td>
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Figures Add Up

1. Connect dots to make triangles. Add corner numbers. How many triangles can be drawn whose corner numbers add to 17? Make a list.

2. How many squares can be drawn whose corner numbers have a sum greater than 20? Make a list.

3. How many parallelograms can be drawn whose corner numbers add to 14? Make a list.

4. Which two squares have corner numbers that add to 20?
Statehood and History

Two states joined the Union, that is, they were admitted into statehood, in the United States of America, in the month of April. They are Maryland, formerly the Province of Maryland, and Louisiana, formerly the Territory of New Orleans.

Use the clues to figure out the date and year each state was admitted to the Union.

Maryland Clues

- Maryland became the seventh state to be admitted to the Union in the 18th century.
- The sum of the digits of the year is 24. Two of the digits are the same.
- The tens digit of the date is \(\frac{3}{4}\) the ones digit. The sum of these digits is 10.

Maryland was admitted to statehood on April ____, __________.

Louisiana Clues

- Louisiana became the eighteenth state to be admitted to the Union in the 19th century.
- The sum of the digits of the year is 12. The tens digit is \(\frac{1}{2}\) of the ones digit.
- The date is a multiple of 10. The sum of the digits of the date is 3. Its product is 0.

Louisiana was admitted to statehood on April ____, __________.