Take the PRIME MATHgazine Junior Challenge! Solve the problems and send them in for a chance to become the GREAT STEMATICIAN OF 2012. Awards in July 2012.

Each answer is worth 5 points. Points are awarded for both creative ways to solve the problems and for correct answers. Solutions due June 1, 2012.

3 ways to submit:
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       MATHgazine
       PO Box 875703
       Tempe, AZ 85287-5703

25 pounds

30 pounds

15 pounds

34 pounds

A

B

C

D

is ___________ pounds.

is ___________ pounds.

is ___________ pounds.

is ___________ pounds.
Draw the reflections of the figures.

**x and z**

1. If \( x + x + y = 10 \)
   And \( y + y + x = 11 \)
   Then \( x + x + x = \) ______
   How did you figure it out?

2. If \( x + x + y + y = 20 \)
   And \( x + y + y = 17 \)
   Then \( x + x + x = \) ______
   How did you figure it out?
How many different routes from A to B?
You can only travel on the lines.
You must go east or north.

Call Me!
What’s my phone number?

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\[a\ \ b\ \ c\ \ d\ \ e\ \ f\ \ g\]

- All of the digits are different.
- \(b, c, d,\) and \(e\) are prime numbers.
- \(b^2=f\)
- \(g=2a\)
- \(c-d=b\)
Balzano is a puzzle that will tap into your logical reasoning abilities. Read the directions carefully, then try your hand at Balzano Shapes.

**Directions:**

Your job is to figure out the Desired Arrangement of three or more shapes from clues that provide information about the shapes and their locations. Each clue consists of three parts. The possible shapes are **circle**, **square, triangle and hexagon**.

The **Arrangement Column** shows sets of shapes in rows. In the Balzano below, the second row is arranged in order from left to right: square, triangle, hexagon.

**Correct Shape in the Correct Position** identifies the number of shapes that are in the Desired Arrangement AND in the right positions. The second row has two shapes that are in the Desired Arrangement and in the right position.

**Correct Shape in the Wrong Position** identifies the number of shapes in the Desired Arrangement that are the right shapes BUT not in the right positions. There are none of these in the second row.

**Incorrect Shape** identifies the number of shapes that are not in the Desired Arrangement. There is one of these in the second row.

<table>
<thead>
<tr>
<th>Arrangement</th>
<th>Correct shape in correct position</th>
<th>Correct shape in wrong position</th>
<th>Incorrect shape</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ ○ □</td>
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