

PRIME Junior!

Math Magazine

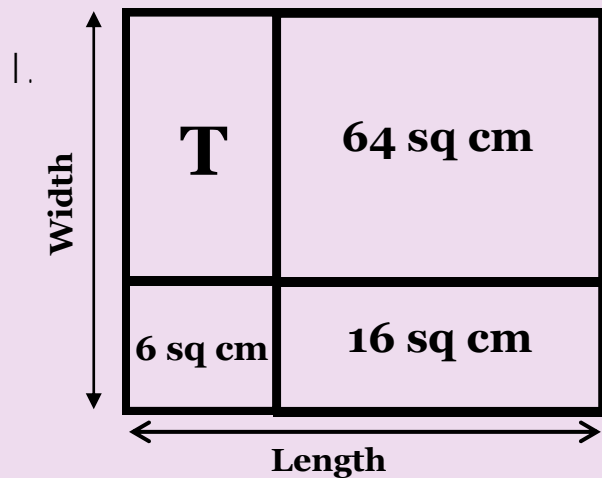
Take the PRIME MATHgazine Junior Challenge! Solve the problems and send them in for a chance to become the **GREAT STEMATICIAN OF 2011-2012**. Awards in July 2012.

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

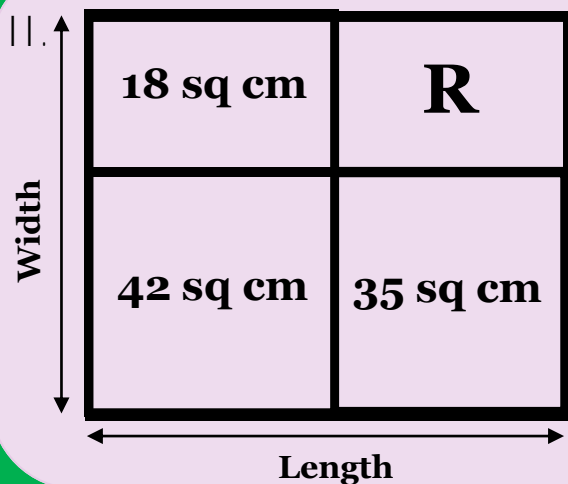
3 ways to submit:

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Dimension Confusion!!!



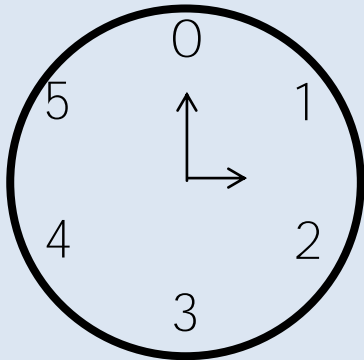
- What is the area of **T**?
- What are the length and width of the large rectangle?



- What is the area of **R**?
- What are the length and width of the large rectangle?

Strange clocks, Strange Sums!

I.



On the "6" clock,

$$3 + 4 = 1$$

$$0 + 5 = 5$$

$$5 + 4 = 3$$

What are the strange sums?

a. $0 + 6 =$ _____

b. $4 + 4 =$ _____

c. $5 + 7 =$ _____

d. $3 + 6 =$ _____

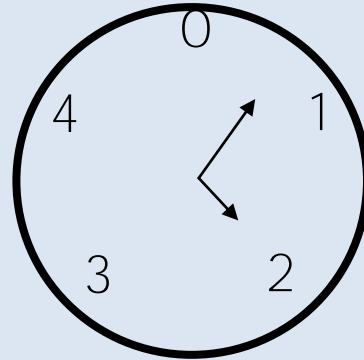
Give three different numbers:

a. $2 +$ _____ $= 4$

b. $2 +$ _____ $= 4$

c. $2 +$ _____ $= 4$

II.



On the "5" clock,

$$1 + 4 = 0$$

$$3 + 3 = 1$$

$$4 + 5 = 4$$

What are the strange sums?

a. $2 + 3 =$ _____

b. $4 + 7 =$ _____

c. $1 + 8 =$ _____

d. $0 + 15 =$ _____

Give three different numbers:

a. $3 +$ _____ $= 2$

b. $3 +$ _____ $= 2$

c. $3 +$ _____ $= 2$

Pattern Puzzlers

1.

M U S I C M U S I C M U S I C M
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

The MUSIC pattern continues.

What is the 43rd letter?

How many MUSIC are in the first 100 letters?

2.

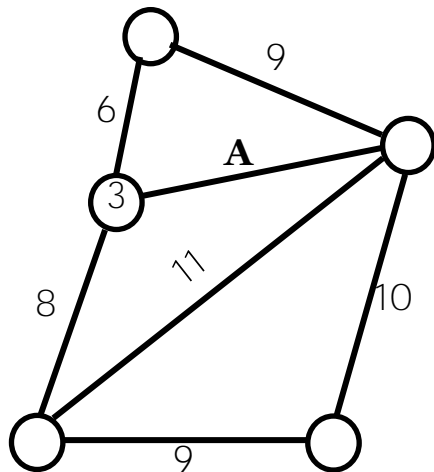
W I N T E R W I N T E R W I N T
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

The WINTER pattern continues.

What is the 61st letter?

How many WINTER are in the first 600 letters?

Circle Connect



The numbers on the lines are the sums of the numbers in the circles.

Fill in the circles.

Then figure out the sum A.

βαζανός

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 two parts. The possible shapes are **circle, square, triangle, semicircle, 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, circle, square.

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 one shape that is 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 is zero 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. This means that one of the two shapes does not belong in the Desired Arrangement.

Arrangement	Correct shape in correct position	Incorrect shape in wrong position	Incorrect Shape
○ □	0	0	2
⬡ D	1	0	1
⬡ △	0	1	1
	2	0	0

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C E N T E R

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