

**HAPPY NEW YEAR**  
from  
your friends at  
**MATH**  
Magazine!

# MATH

TEACHER'S EDITION  
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**It's a new year—and we've got a brand new Web site!**

Check out [www.scholastic.com/math](http://www.scholastic.com/math) where you'll find:

- The reproducible issue skills review (which used to be inside the Teacher's Edition) is now an easy-to-download PDF
- An index of which skills we covered in which issues—great for students who need further review
- Internet links related to our articles for you and your students
- And plenty more! Give it a try and let us know what you think!

Happy 2010,

*Jack Silbert*  
Jack Silbert, Editor

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## SKILLS GUIDE

= Calculator Use Suitable    = Critical Thinking    = Writing in Math

ARTICLE	MAJOR FOCUS	REAL-LIFE CONNECTIONS	SUPPLEMENTARY SKILLS	NCTM STANDARDS*
ACTIVITY: cover Sean's Fire Formula	Using a formula: Fahrenheit to Celsius	• Singer Sean Kingston • Ignition temperature of paper	• Rounding decimal numbers • Whole number $-$ , $\times$ , $\div$	1, 2, 4, 8
FAST MATH: p. 2	Mixed skills	• TV's <i>Sonny With a Chance</i> • Boy Scouts' 100-year anniversary	• Perimeter of a square; GCF; fraction $+$ ; rate: miles/day; etc.	1, 2, 3, 4, 6, 8, 9
MATH FOR YOUR DAILY LIFE: p. 4 Bad Ad?!?	Consumer awareness: misleading ads	• Singer Sean Kingston • Misleading ads	• Money $+$ , $-$ , $\times$ • Comparing money amounts	1, 6, 7, 8, 9, 10
STATISTICS: p. 6 Girls Got Game Too!	Reading a double-line graph	• Title IX's effects on girls' school sports participation	• Comparing data • Drawing conclusions	1, 5, 6, 7, 8, 9, 10
MID-YEAR SKILLS REVIEW: p. 8 David's Puzzling Photos	Mixed skills	• Wacky U.S. sites	• Pre-algebra; fractions; number sense; measurement; etc.	1, 2, 4, 7, 8, 9
MATH AT WORK: p. 10 A Bike You'll Like	Geometry: classifying angles	• Career: Bike fitter • Hip angles	• Vocab: right, acute, obtuse • Visual discrimination	1, 3, 4, 6, 8, 9, 10
PRACTICE TEST: p. 12 Time-Traveling Fractions	Fraction $+$ , $-$	• Standardized test practice	• Least common multiple • Mixed number $+$ , $-$	1, 8
MATH WIZ COMICS: p. 14 Rockin' Reciprocals	Reciprocals	• Comic strips as a literacy tool	• Simplifying fractions • Mixed numbers to improper frax	1, 2, 8
STAR WRAP: back page Caitlyn Loves Area and Perimeter	Geometry: rectangles' area and perimeter	• Actress Caitlyn Taylor Love • TV show <i>I'm in the Band</i>	• Whole number $+$ , $-$ , $\times$ , $\div$ • Using a formula	1, 3, 4, 8

**\*NCTM Middle School Curriculum Standards**

- |                                |                        |
|--------------------------------|------------------------|
| 1. Number and Operations       | 6. Problem Solving     |
| 2. Algebra                     | 7. Reasoning and Proof |
| 3. Geometry                    | 8. Communication       |
| 4. Measurement                 | 9. Connections         |
| 5. Data Analysis & Probability | 10. Representation     |

For more detailed information about the National Council of Teachers of Mathematics Standards, write to:  
NCTM, 1906 Association Drive, Reston, VA 20191-9988.  
Phone: (703) 620-9840. Fax: (703) 476-2970.  
E-mail: [infocentral@nctm.org](mailto:infocentral@nctm.org)

SUPPLEMENT TO SCHOLASTIC MATH

**DON'T MISS OUR 2/1 ISSUE...**

**MATH FOR YOUR DAILY LIFE:** Miranda Cosgrove, star of the huge TV hit *iCarly*, talks to us about the costs of running your own Web site.

**CALCULIT:** Our popular "math in literature" feature is back! We present math problems based on a selection of young-adult fiction and non-fiction.

**MATH AT WORK:** Meet Buddy Valastro, TV's *Cake Boss*, who teaches us how **circumference and area of circles** relate to making cakes.

**SPORTS BY THE NUMBERS:** Get ready for the Winter Olympics with figure skater Rachael Flatt and the **decimal computation** of scoring.

...AND MUCH, MUCH MORE!



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# TEACHING TIPS

## COVER

### Sean's Fire Formula

Students should estimate:  $451 - 32 \approx 420$ ; since  $\frac{5}{9}$  is close to  $\frac{1}{2}$ , take  $\frac{1}{2}$  of 420 and get 210 as an estimate; by exact calculation it is 233 (rounded).

## PAGES 2 – 3

### Fast Math

**Sonny With a Chance:** For students not yet comfortable with perimeter (or distinguishing it from area), the backpage activity will be helpful.

**Greatest CoMMon Factor:** Not that it's necessary to find the GCF/GFC error, but if students need a review, see the backpage of our November 23 issue.

**Nutty Numbers:** Remember order of operations!

## PAGES 4 – 5

### Bad Ad?!

Students may be unfamiliar with reading ads of this type. Having a few samples to display would be helpful. As a general discussion, share with students that when reading an ad they should consider what the total cost is. And always read the small print!

## PAGES 6 – 7

### Girls Got Game Too!

A line graph shows the trend of data over time. Remind students that time can be weeks, months, years, minutes, days, and so on. To practice creating a line graph, go to <http://nces.ed.gov/nceskids/createAgraph/default.aspx>. Students are stepped through the process of creating the line graph and are able to make adjustments to different features such as the scaling

of each axis. This could lead into discussion of misleading graphs.

## PAGES 8 – 9

### David's Puzzling Photos

This activity is a fun way to review skills. Pair students. On-going cumulative distributed practice improves learning and retention, so do not skip this activity!

## PAGES 10 – 11

### A Bike You'll Like

There are several common misconceptions held by students. The first one is that the length of the rays influence the measure of the angle. Draw several angles with different lengths of ray. In doing so, address a second misconception that angles must contain a horizontal ray. Samples:



Have students look around the room and identify different types of angles. Who can find the most acute angle? The most obtuse angle?

## PAGES 12 – 13

### Time-Traveling Fractions!

If students have already worked with fraction addition and subtraction,

the introduction should be sufficient. Remind student that fractions should be simplified.

## PAGES 14 – 15

### Rockin' Reciprocals

Write a series of problems on the board:

$$\frac{2}{3} \times ? = 1 \quad \frac{5}{7} \times ? = 1$$

$$\frac{2}{4} \times ? = 1 \quad 6 \times ? = 1$$

Discuss the relationship between the numbers;  $\frac{2}{3}$  and  $\frac{3}{2}$  are reciprocals because their product is 1. In the third example, point out that  $\frac{2}{4}$  is equivalent to the mixed number  $2\frac{1}{4}$ .

## BACK PAGE

### Caitlyn Loves Area and Perimeter

Students generally do well with finding the area or perimeter of a rectangle given the dimensions. The arithmetic is on one side of the equation. When the area or perimeter and one of the dimensions are known, they need to solve an equation. I find that when students make a quick sketch of the given information and label the known dimension, they have more success in finding the missing dimension.

**Our list of ONLINE RESOURCES for the issue has moved ONLINE!**

**Visit:**

**[www.scholastic.com/math](http://www.scholastic.com/math)**

# EXTENSION ACTIVITIES

## COVER

### Sean's Fire Formula

Have students investigate the book *Fahrenheit 451* written by Ray Bradbury. The title does refer to the temperature at which paper ignites. Science-fan students may wish to do some additional research, as the ignition temperature varies depending on the type of paper.

PAGES 4 – 5

### Bad Ad?!?

Have students bring in advertisements they feel are misleading in some way.

PAGES 6 – 7

### Girls Got Game Too!

Students' parents may be too young to remember Title IX but they should be aware of it. Title IX had impact beyond athletic participation. It impacted health, industrial arts, and family consumer science, all of which were segregated by sex at one time. Students may want to read more about Title IX.

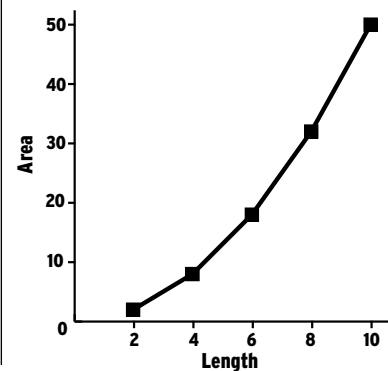
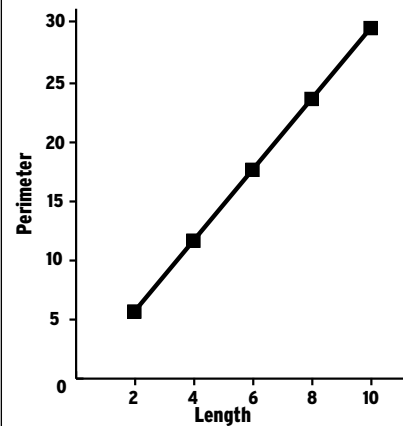
## BACK PAGE

### Caitlyn Loves Area and Perimeter

Have students explore what happens to the perimeter and area when the dimensions of a rectangle are doubled, tripled, quadrupled, and so on. To develop problem solving strategies, have students record their results in a table (as below). They could also graph the results (as at right).

Length	Width	Perimeter	Area
2	1	6	2
4	2	12	8
6	3	18	18
8	4	24	32
10	5	30	50

Teaching tips and extension activities  
written by Laurie Boswell  
*Laurie is a teacher and the headmaster of  
Riverside School in Lyndonville, Vermont.*



Looking for this issue's  
reproducible skills review?

Find it from now on at:

[www.scholastic.com/math](http://www.scholastic.com/math)

## WE WANT TO WRITE ABOUT YOUR STUDENTS!

Do any students in your class...

- run their own business?
- have a unique hobby?
- help out the community?

If you know a student who you think could be the subject of a *MATH* Magazine article, let us know!

Send story ideas to:

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