SCHOLASTIC

DynaMath®

TEACHER'S EDITION
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HELP STUDENTS ♥ MATH

Valentine's Day is approaching, and we want to help your students love math. In this issue, we'll show how celebrity chef Guy Fieri uses improper fractions and mixed numbers to increase a tasty recipe (pages 4–5).

Plus we share the heartwarming story of a 12-year-old girl who started a charity for pets caught in fires (pages 10–11).

Read the chart below to see what else students will love in this issue!

Mathematically yours,

Matt Friedman

Matt Friedman, Editor

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Issue Dates:	9/10	10/10	11–12/10	1/11	2/11	3/11	4/11	5-6/11

CONTENT AND SKILLS GUIDE

Difficulty Level: ★ = Easy ★★ = On-Level ★★★ = Challenging

PAGE	ARTICLE TITLE, DIFFICULTY LEVEL		PRIMARY MATH SKILL	SUPPLEMENTARY SKILLS/APPLICATIONS	NCTM STANDARDS (See below for details)
Cover	"Code" Cereal	★★	**Working with codes**	Logical reasoning	**1**, **2**, 7, 8
2–3	Numbers in the News	★★	**Multi-step problems**	Computation +, –, ×, ÷	**1**, **4**, 6, 9
4–5	This Guy Can Cook!	★★	**Mixed #s to improper frax**	Increasing a recipe	**1**, **4**, 7, 8, 9
6–7	Geometry World Tour	★★	**Lines (parallel, etc.)**	Reasoning	**1**, **3**, 7, 8, 9
8–9	The Off-to-School . . .	★★★	**Ranking decimals**	Decimal place value	**1**, 8
10–11	Fund-Rrrraiser	★★	**Money +, ÷**	Running a business	**1**, **2**, 8, 9
12–13	Backward Basketball	★★	**Working backward**	Statistics	**1**, **2**, 5, 6, 7, 8
14–15	Chill, ART!	★★	**Issue skills review**	Problem solving	**1**, **3**, 6, 7
16	Miranda Has No Equal	★★	**Equivalent fractions**	Solving for a variable	**1**, **3**, 8
T4	Line Time	★★	**Line-related vocabulary**	pp. 6–7 extension	**3**, 8
T5	Problem Solved Prep Page	★	**Working backward**	pp. 12–13 warm-up	**1**, **2**, 6, 7, 8
T6	Fraction Friends	★	**Equivalent fractions**	p. 16 extension	**1**, **2**, 8

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NCTM Standards

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

Standards listed above in a bold box (such as **1**) indicate that the article also connects with a new NCTM Curriculum Focal Point.

YOUR STUDENTS CAN WIN A *DYNAMATH* T-SHIRT!

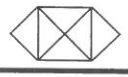
Ask your students to be on the lookout for interesting events or places that they'd like *DynaMath* to feature in "Numbers in the News." Have them send a copy of, or a Web link to, their news idea. If we use it in the magazine, they'll win a T-shirt. See page 3 of this issue's student edition for details.

DynaMath
SKILLS PAGE

Name _____

Problem of the Day

Try one of these quick exercises each day as a fast, fun way to start your math lesson!

DAY 1 Three times a number is equal to 2 times the number plus 4. What is the number?	**DAY 2** The first Punxsutawney Phil groundhog made his first weather prediction on 2/2/1887. How many years before this 2/2 was that?	**DAY 3** Complete this equation with unit labels to make it true. **1 foot + 24 inches = 1 _____**	**DAY 4** Mikal cut an apple in half. Then he cut the halves in half. Then he cut those halves in half. How many pieces of apple did Mikal have?	**DAY 5** On Monday, snow fell for 1 hour, 30 minutes. On Tuesday, snow fell for twice as long. How long did the snow fall in all on both days?
DAY 6 Racers' times: Jack: 11.45 seconds Jimmy: 11.458 seconds Judy: 10.59 seconds Who came in first, and second, and third?	**DAY 7** Which word below does not belong?: **rectangle, triangle, cube, square**	**DAY 8** On the 31st of any month, Sheila writes a poem about the number 31. How many poems about 31 will Sheila write in one year?	**DAY 9** Which is greater, 16 ounces or 3 cups? How much greater?	**DAY 10** The numbers of the date 1/11/11 have a sum of 23. Which date this February will have a sum of 27?
DAY 11 What is the product of the factors of the first four prime numbers?	**DAY 12** This year, how many times does the digit 2 appear on the February calendar? Don't look at the digits of the year.	**DAY 13** What one digit can be put in both blanks to make the equation below true? **6__4 × __ = 3,270**	**DAY 14** The average of two numbers is 10. The average of those two numbers and another number is 15. What is the third number?	**DAY 15** The Chinese New Year is 2 weeks before the Chinese Lantern Festival. The Lantern Festival is on 2/17. When is the New Year?
DAY 16 Ian bought 2 pens for $.98 each, a bag of pretzels for $.85, and a Valentine for $1.99. He paid with a $5 bill. What was his change?	**DAY 17** Draw the shape below without lifting your pencil from the paper. Do not retrace or cross any lines. 	**DAY 18** Marty's speech was 9 times as long as Abe's speech. Together, the speeches lasted 20 minutes. How long was each person's speech?	**DAY 19** Every day, Mary gets 3 stickers and gives one of them to a friend. In a week, how many stickers will Mary keep?	**DAY 20** Each box holds 8 spheres. Each sphere holds 6 cubes. Each cube holds 3 cones. How many cones are in 5 boxes?

TEACHERS: Make one copy per student, or assign one problem each day to start your math lesson!

SCHOLASTIC DynaMath

Name_____

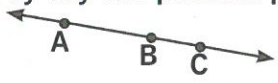
EXTENSION ACTIVITY

Line Time

On pages 6 and 7, you learned about line pairs. Now learn other basic line vocabulary—and, to honor Black History Month (February), you'll learn about great African-American inventors too.

LINE VOCABULARY

✔ **A line goes on forever in both directions and is named by any two points it passes through.**



This line can be named $\overleftrightarrow{AB}$ (say "line AB"), $\overleftrightarrow{AC}$, $\overleftrightarrow{BC}$, $\overleftrightarrow{BA}$, $\overleftrightarrow{CA}$, or $\overleftrightarrow{CB}$.

✔ **A line segment is a piece of a line. It is named by its two endpoints.**

This segment can be named $\overline{DE}$ (say "segment DE") or $\overline{ED}$.

✔ **A ray has one endpoint (like a line segment) but goes on forever in only one direction. It can be named by its endpoint and another point on the ray, or just by its endpoint.**

This ray can be named $\overrightarrow{HG}$ (say "ray HG") or $\overrightarrow{H}$.

What to Do

In each problem, identify the line or piece of a line. Fill in the circle next to the correct answer. The phrase next to the answer finishes the sentence about a great African-American inventor.

1. 

Lonnie Jackson was all wet in 1982 after he invented the . . .

Ⓐ $\overline{JK}$ Super Soaker water pistol.

Ⓑ $\overleftrightarrow{JK}$ Slip 'N Slide toy.

2. 

About a hundred years ago, Madame C. J. Walker became the first woman to earn a million dollars. She invented . . .

Ⓐ $\overleftrightarrow{LM}$ plastic silverware.

Ⓑ $\overrightarrow{LM}$ a product to help people grow hair.

3. 

George Crum made lots of crumbs in 1853 when he invented the . . .

Ⓐ $\overleftrightarrow{DE}$ potato chip.

Ⓑ $\overrightarrow{DE}$ oatmeal-raisin cookie.

4. 

In 1923, Garrett Morgan proved how bright he was when he invented the first . . .

Ⓐ $\overrightarrow{PQ}$ sunscreen.

Ⓑ $\overrightarrow{QP}$ traffic signals.

5. 

Dr. Patricia Bath saw a need and, in 1988, invented . . .

Ⓐ $\overrightarrow{Z}$ a new device for performing eye surgery.

Ⓑ $\overrightarrow{YZ}$ sunglasses for dogs.

6. 

In 1911, Nathaniel Alexander took his seat as a great inventor, creating . . .

Ⓐ $\overleftrightarrow{SR}$ folding chairs.

Ⓑ $\overleftrightarrow{RST}$ safety belts for cars.

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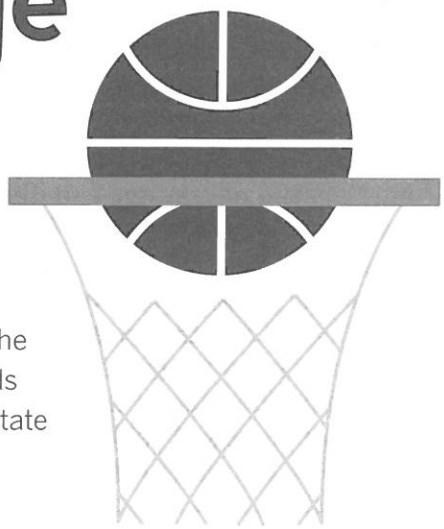
Name_____

WARM-UP ACTIVITY

Problem Solved Prep Page

WORKING BACKWARD



Before you work backward on pages 12 and 13, read ahead for our tips to help you solve a working-backward problem!

Look at question #1 on page 13.

A *rebound* is when a player grabs the ball after it hits the rim of the hoop. Carlos Boozer (now a Chicago Bull) had 208 fewer rebounds than Dwight Howard (Orlando Magic). David Lee (now a Golden State Warrior) had 75 more rebounds than Carlos Boozer. Lee had 949 rebounds. How many rebounds did Dwight Howard have?

To find the number of rebounds Dwight Howard had, you can make a chart to organize what you know:

Player's Name	What You Know	# of Rebounds
Boozer	208 fewer than Howard	
Howard		
Lee	75 more than Boozer	949

Use the information from the question to complete the chart:

✓ Lee had 949 rebounds, 75 more rebounds than Carlos Boozer. So Boozer had 75 *fewer* rebounds than Lee. Solve to find Boozer's rebounds:
949 – 75 = 874

Fill in Boozer's number of rebounds in the chart.

✓ Since Boozer had 208 fewer rebounds than Howard, that means Howard had 208 *more than* Boozer. Solve to find Howard's rebounds:
874 + 208 = 1,082

Fill in Howard's number of rebounds in the chart.

Player's Name	What You Know	# of Rebounds
Boozer	208 fewer than Howard	874
Howard		1,082
Lee	75 more than Boozer	949

✓ Check your work by plugging your answers from the chart back into the original problem.

Try this method to answer the questions on pages 12 and 13 of the Student Edition!

SCHOLASTIC DynaMath

Name_____

EXTENSION ACTIVITY

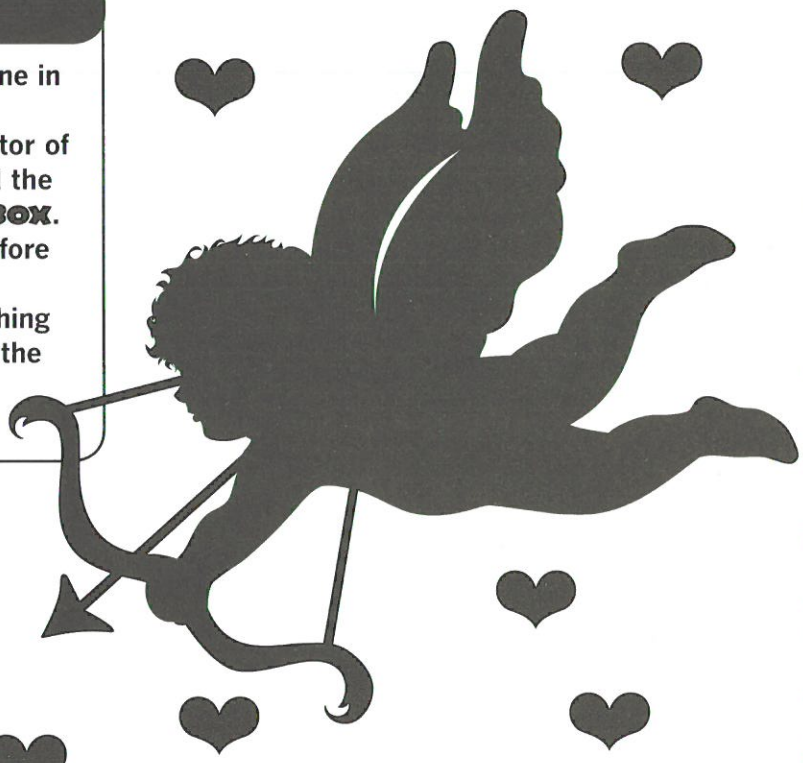
Fraction Friends

Help the fractions below find their perfect match—just in time for Valentine's Day!

What to Do

Match each fraction to an equivalent one in the **ANSWER BOX**. Here's how:

- ✔ Multiply the numerator and denominator of each fraction by the same factor. Find the equivalent fraction in the **ANSWER BOX**. (You may have to try a few factors before you find an an equivalent in the box.)
- ✔ Write the letter that's next to the matching equivalent fraction in the blank above the problem number. You'll find the answer to our math riddle.



1. $\frac{1}{4}$
2. $\frac{3}{5}$
3. $\frac{1}{2}$
4. $\frac{3}{8}$
5. $\frac{4}{9}$
6. $\frac{6}{7}$
7. $\frac{2}{3}$
8. $\frac{5}{6}$

WHAT KIND OF VALENTINE DID THE ANGLE SEND TO HIS GIRLFRIEND?

" _____ _____ _____ _____ _____ "

2 5 3 8 4

_____ _____ _____!

7 1 6

ANSWER BOX

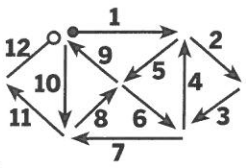
$\frac{9}{15}$ A	$\frac{18}{21}$ E
$\frac{12}{32}$ E	$\frac{35}{42}$ T
$\frac{20}{30}$ O	$\frac{20}{45}$ C
$\frac{2}{8}$ N	$\frac{6}{12}$ U

ANSWER BANK

(For student edition answers, turn to page T8.)

PAGE T3: *PROBLEM OF THE DAY*

DAY 1: 4
DAY 2: 124 years ago
DAY 3: 1 yard
DAY 4: 8 pieces
DAY 5: 4 hours, 30 minutes ($4\frac{1}{2}$ hours)
DAY 6: First: Judy; **Second:** Jack; **Third:** Jimmy
DAY 7: cube; all the other shapes are 2-D
DAY 8: 7 poems
DAY 9: 3 cups is 8 oz. (1 cup) greater than 16 oz.
DAY 10: 2/14/11
DAY 11: 210
DAY 12: 12 2's
DAY 13: 5
DAY 14: 25
DAY 15: February 3
DAY 16: 20¢ ($.20)
DAY 17: See right for one possible solution.



DAY 18: Marty's speech was 18 minutes long; Abe's was 2 minutes long.
DAY 19: 14 stickers
DAY 20: 720 cones

PAGE T4: *LINE TIME*

1. A
2. B
3. A
4. B
5. A
6. A

PAGE T6: *FRACTION FRIENDS*

1. N
2. A
3. U
4. E
5. C
6. E
7. O
8. T

What kind of valentine did the angle send to his girlfriend?
"ACUTE" ONE!

ANSWER BANK

(For Teacher's Edition answers, see previous page.)

COVER: *"CODE" CEREAL*

SHE "EIGHT" EVERY "ONE"!
(Note: There are 9's and 0's still in the box.)

PAGES 2–3: *NUMBERS IN THE NEWS*

Rubik's Free Fall: 54 squares
Mega Monopoly Mutt: 6 feet, $11\frac{1}{2}$ inches taller
Mascots on Parade: 166 mascots
Wacky Fact: 316,800,000 feet
Squirrel Snack: $156.00

PAGES 4–5: *THIS GUY CAN COOK!*

Ground beef: $2\frac{1}{2}$ pounds
Pork sausage: $2\frac{1}{2}$ pounds
Red onion: $2\frac{1}{2}$ cups
Red bell pepper: $1\frac{1}{4}$ cups
Pepper: $2\frac{1}{2}$ tbsp
Red chili flakes: $3\frac{3}{4}$ tsp
Parmesan cheese: $1\frac{1}{4}$ cups
Eggs: $2\frac{1}{2}$ eggs
Salt: $2\frac{1}{2}$ tsp
Milk: $2\frac{1}{2}$ cups
Spaghetti: $3\frac{1}{8}$ pounds
SUPERMATH: $8\frac{1}{4}$ cups flour

PAGES 6–7: *GEOMETRY WORLD TOUR*

1. perpendicular
2. intersecting
3. intersecting
4. perpendicular
5. parallel
6. parallel

SUPERMATH: Answers will vary. Some examples: The columns form parallel lines with each other; each column is perpendicular to the top of the stairs; and the corners of the arch of the room are intersecting.

PAGES 8–9: *THE OFF-TO-SCHOOL OLYMPICS*

1. 1st place: Dave; **2nd place:** Bob
2. 1st: Stacey; **2nd:** Dave; **3rd:** Bob
3. 1st: Spot; **2nd:** Bob; **3rd:** Stacey; **4th:** Dave
4. 1st: Dave; **2nd:** Bob; **3rd:** Stacey; **4th:** Dad
5. 1st: Dave; **2nd:** Stacey; **3rd:** Bob
6. 1st: Bob; **2nd:** Spot; **3rd:** Stacey; **4th:** Dave
SUPERMATH: 1st: Dave; **2nd:** Bob; **3rd:** Mom; **4th:** Spot; **5th:** Stacey

PAGES 10–11: *FUND-RRRRAISER*

1. $210.00
2a. $140.00
2b. 2 kits with cases
3. 3 kits with cases
4. No; Monica would need $5 more.
5. 4 kits with cases
6. 1 kit w/case; needs $67.69 more to get 1 more
SUPERMATH: Monica has exactly enough for 3 kits with cases.

PAGES 12–13: *BACKWARD BASKETBALL*

1c. Dwight Howard
2a. 2,045 points
2b. 2,258 points
2c. Kevin Durant
3. Nash, with 892 assists
4. Gasol, with 130 points
SUPERMATH: about 2,025 total points

PAGES 14–15: *CHILL, ART!*

1. B **2.** D **3.** A **4.** A **5.** C **6.** C **7.** $3\frac{1}{5}$ **8.** 9 feet tall **9.** perpendicular **10.** 9.2, 8.7, 8.1, 7.8, 7.3, 6.3

PAGE 16: *MIRANDA HAS NO EQUAL!*

1. A **2.** B **3.** A **4.** A **5.** B **6.** B

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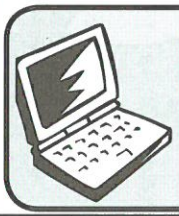

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Maurice R. Robinson, Founder of Scholastic Inc. 1895–1982

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