



SCHOLASTIC

TEACHER'S GUIDE  
SUPPLEMENT TO SCHOLASTIC MATH



# MATH

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ISSUE DATES 9/2 9/16 10/7 10/28 11/18 12/9 1/13 2/3 3/3 3/24 4/14 5/5

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all you need is your access code: exponent

In this issue we tried something new: a four-page feature story about making a park on the moon to protect the Apollo landing sites. The story was so interesting that we wanted more space to explain the out-of-this-world idea.

And with double the pages, you get double the math! The first skill is scale. Students will calculate the distance between the 6 Apollo landing sites using the map's scale. When they're done with that, they can flip the page to use a coordinate

grid to locate the different artifacts left behind at the historic Apollo 11 landing site, where Buzz Aldrin and Neil Armstrong first walked on the lunar surface.

I'm really excited about the new four-page feature. But I'm even more excited to hear what you—and your students—think about it. E-mail me anytime. I'd love to hear from you!

Best wishes,  
Karina Hamalainen, Editor  
[khamalainen@scholastic.com](mailto:khamalainen@scholastic.com)



## SKILLS GUIDE

PAGE	SKILL & ARTICLE TITLE	COMMON CORE STATE STANDARDS	ONLINE RESOURCES: <a href="http://www.scholastic.com/math">www.scholastic.com/math</a>
4	<b>Angles</b> Angling for a Win	<b>Geometry:</b> Use facts about supplementary, complementary, vertical, and adjacent angles to find an unknown angle.	<ul style="list-style-type: none"> <li>Download a skills sheet.</li> <li>Watch an instructional video.</li> </ul>
6	<b>Scatter Plots</b> Dogs on Guard	<b>Statistics &amp; Probability:</b> For scatter plots, informally fit a straight line and assess the model by judging the closeness of the data points to the line.	<ul style="list-style-type: none"> <li>Download two differentiated skills sheets.</li> </ul>
8	<b>Scale &amp; Coordinate Plane</b> Our Lunar Legacy	<b>Geometry:</b> Solve problems involving scale drawings of geometric figures. <b>The Number System:</b> Find and position pairs of integers and other rational numbers on a coordinate plane.	<ul style="list-style-type: none"> <li>Download a skills sheet.</li> <li>Watch a background video.</li> </ul>
12	<b>Statistics</b> 3... 2... 1... Happy New Year!	<b>Statistics &amp; Probability:</b> Summarize numerical data sets in relation to their context.	<ul style="list-style-type: none"> <li>Enlarge pop-up graphs and charts.</li> </ul>
14	<b>Circle Graphs</b> Made in Asia	<b>Statistics &amp; Probability:</b> Understand that statistics can be used to gain information about a population by examining a sample of the population.	<ul style="list-style-type: none"> <li>Download a skills sheet.</li> <li>Watch a background video.</li> </ul>
16	<b>Fractions to Decimals</b> The Hobbit Returns	<b>Expressions &amp; Equations:</b> Solve mathematical problems posed with rational numbers in any form; convert between forms as appropriate.	<ul style="list-style-type: none"> <li>Download a skills sheet.</li> <li>Play a game.</li> </ul>

NAME: \_\_\_\_\_

## Issue Skills Review

For use with the December 9, 2013, issue of Scholastic *MATH* magazine.

Fill in the letter of the correct answer, or write the correct answer.

**1** How many degrees are in a pentagon?

- Ⓐ 500     Ⓑ 540     Ⓒ 720     Ⓓ 900

**2** What is the complementary angle of an angle measuring  $41^\circ$ ?

\_\_\_\_\_

**3** What is the supplementary angle of an angle measuring  $117^\circ$ ?

\_\_\_\_\_

**4** If the scale on a map is 0.5 inches = 300 miles, how many miles are between two points that are 1 inch apart on the map?

\_\_\_\_\_

**5** If you were to draw a line through the center of the data on a scatter plot and it slants downward, what relationship would that show?

\_\_\_\_\_

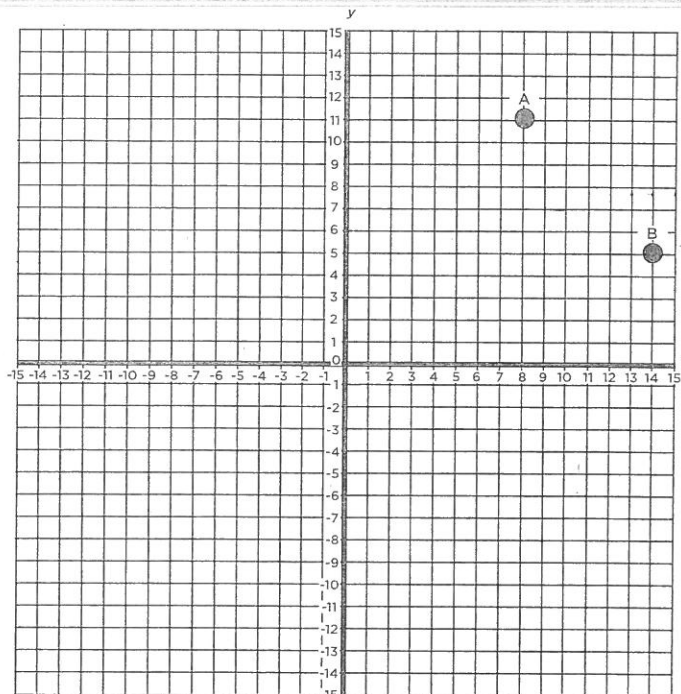
**6** What is  $\frac{21}{24}$  written as a decimal?

\_\_\_\_\_

**7** How many degrees are in a circle?

\_\_\_\_\_

Use the coordinate grid to answer questions 8-10.



**8** What are the coordinates for point A?  
 Ⓐ (7, 12)     Ⓑ (8, 11)     Ⓒ (11, 8)     Ⓓ (12, 7)

**9** What are the coordinates for point B?  
 Ⓐ (5, 14)     Ⓑ (13, 5)     Ⓒ (12, 6)     Ⓓ (14, 5)

**10** Draw a point at (-9, 10) and label it C.

NAME: \_\_\_\_\_

## Problem of the Day

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

<p><b>DAY 1</b></p> <p>Yvonne mixes <math>1\frac{7}{8}</math> cups of popcorn, <math>\frac{1}{4}</math> cup of raisins, <math>\frac{1}{3}</math> cup of peanuts, and <math>\frac{7}{12}</math> cup of pretzels in a big bowl. How many cups of food are in her bowl in all?</p>	<p><b>DAY 2</b></p> <p>Solve for <math>x</math>: <math>x \div 0.38 = 0.7</math></p>	<p><b>DAY 3</b></p> <p>A square has an area of 36 square inches. What is its perimeter?</p>	<p><b>DAY 4</b></p> <p>The Apollo 11 rocket, which first took people to the moon, reached speeds up to 24,200 mph. How many feet per second is that, rounded to the nearest whole number?</p>	<p><b>DAY 5</b></p> <p>Denver, Colorado, is 919 miles away from Chicago, Illinois. On one map, the distance between the two cities is <math>4\frac{1}{8}</math> inches. What is the scale of the map in miles per inch?</p>						
<p><b>DAY 6</b></p> <p>On January 1, 2013, the U.S. population was about 318 million. On January 1, 2014, it is expected to be about 321 million. What will the percent increase in population be?</p>	<p><b>DAY 7</b></p> <p>In the diagram below, which pair of angles are complementary?</p> <div style="text-align: center;"> </div>	<p><b>DAY 8</b></p> <p>Circle the expressions below that have values greater than 7.</p> <p><math>4\frac{3}{8} + 2\frac{1}{3}</math>  <math>3\frac{5}{7} + 3\frac{1}{2}</math>  <math>1\frac{5}{6} + 4\frac{9}{10}</math>  <math>6\frac{1}{4} + 1\frac{1}{2}</math>  <math>5\frac{4}{9} + 1\frac{7}{10}</math></p>	<p><b>DAY 9</b></p> <p>Sammy Squirrel saved 8 more than 3 times as many acorns as Sonny Squirrel. Sonny stored <math>x</math> acorns. Write an expression that shows how many acorns Sammy stored.</p>	<p><b>DAY 10</b></p> <p>If the number 9 is written on each side of a cube, what is the sum of all the 9's written the cube?</p>						
<p><b>DAY 11</b></p> <p>Little penguins average 12 inches in height. Emperor penguins—the world's largest—average 4 inches less than 4 times a little penguin's height. How tall is an emperor penguin?</p>	<p><b>DAY 12</b></p> <p>A rectangular prism has these measures:  <math>l = 2.4</math> cm  <math>w = 5.5</math> cm  <math>V = 80.52</math> cubic cm                  What is the height?</p>	<p><b>DAY 13</b></p> <p>Snowboarder Kelly Clark has incredible moves! She has done <math>1,080^\circ</math> spins, which is 3 complete turns in the air. The world record spin was <math>1,620^\circ</math>. How many turns is that?</p>	<p><b>DAY 14</b></p> <p>Circle the numbers below that are equal to <math>2\frac{1}{2}</math>.</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>2.1216</td> <td><math>2\frac{3}{4}</math></td> </tr> <tr> <td><math>\frac{34}{16}</math></td> <td>2.75</td> </tr> <tr> <td><math>\frac{22}{8}</math></td> <td><math>\frac{40}{12}</math></td> </tr> </table>	2.1216	$2\frac{3}{4}$	$\frac{34}{16}$	2.75	$\frac{22}{8}$	$\frac{40}{12}$	<p><b>DAY 15</b></p> <p>Last year, Geoff arrived at a New Year's party at 8:49 p.m. on December 31, and left it at 12:35 a.m. on January 1. How long was Geoff at the party?</p>
2.1216	$2\frac{3}{4}$									
$\frac{34}{16}$	2.75									
$\frac{22}{8}$	$\frac{40}{12}$									
<p><b>DAY 16</b></p> <p>Fill in the missing decimal:</p> <p><math>0.8 + \frac{1}{4} + \underline{\hspace{1cm}} = 1\frac{1}{2}</math></p>	<p><b>DAY 17</b></p> <p>When plotted on a standard coordinate grid, which of these points would be farthest to the left?                  (3, 5)    (5, 3)</p>	<p><b>DAY 18</b></p> <p>Two angles of an isosceles triangle each measure <math>67.2^\circ</math>. What is the measure of the third angle?</p>	<p><b>DAY 19</b></p> <p>Anya spent \$2.50 buying 2 pencils and 2 notebooks. Each pencil cost 50¢. How much did each notebook cost?</p>	<p><b>DAY 20</b></p> <p>If <math>A = \\$0.01</math>, <math>B = \\$0.02</math>, <math>C = \\$0.03</math>, etc., who in your class has the "most expensive" complete first name? Whose name has a value closest to \$0.50? \$0.75? \$1.00?</p>						

## COVER

### Angling for Gold

71% of her medals are gold.

## PAGES 2-3

### Numbers in the News

#### • MATHEMATICIAN BEES

Each angle measures  $120^\circ$ .

#### • THE FOXES AT FACEBOOK

46% liked the page during the week of June 22.

#### • NO BATTERIES REQUIRED

The hollow flashlight produces 0.00054 watts of electricity.

#### • DO THE MATH!

The Statue of Liberty is 151 feet tall.

## PAGE 4

### Angling for a Win

- $40^\circ$
- $67^\circ$
- $36^\circ$
- $102^\circ$
- She will fall over, because it is more than  $90^\circ$  (Unless she is on an extremely steep slope).

## PAGE 6

### Dogs on Guard

- graph  $\longrightarrow$
- positive trend
- The lowest was February 2007; the highest was December 2011.
- about 85 penguins
- Since it shows change over time, you could also show a line graph.

To find the answers online, click on "Teaching Resources."

## PAGE 8

### Our Lunar Legacy

- 797.5 miles
- a.  $\frac{7}{16}$  inch
- 253.75 miles
- 725 miles
- 652.5 miles
- a.  $\frac{1}{4}$  inch
- Answers will vary. If there is a discrepancy, it could be due to rounding and measuring errors.

## PAGE 10

### Our Lunar Legacy

- TV camera
- (4, 7)
- the olive branch
- mark (8, 2) on grid
- about 20 meters apart

## PAGE 12

### 3... 2... 1... Happy New Year!

- C
- A
- D
- B
- C
- D
- 38 cubic feet
- 314 square feet
- about 152 people
- about 213 more people

## PAGE 14

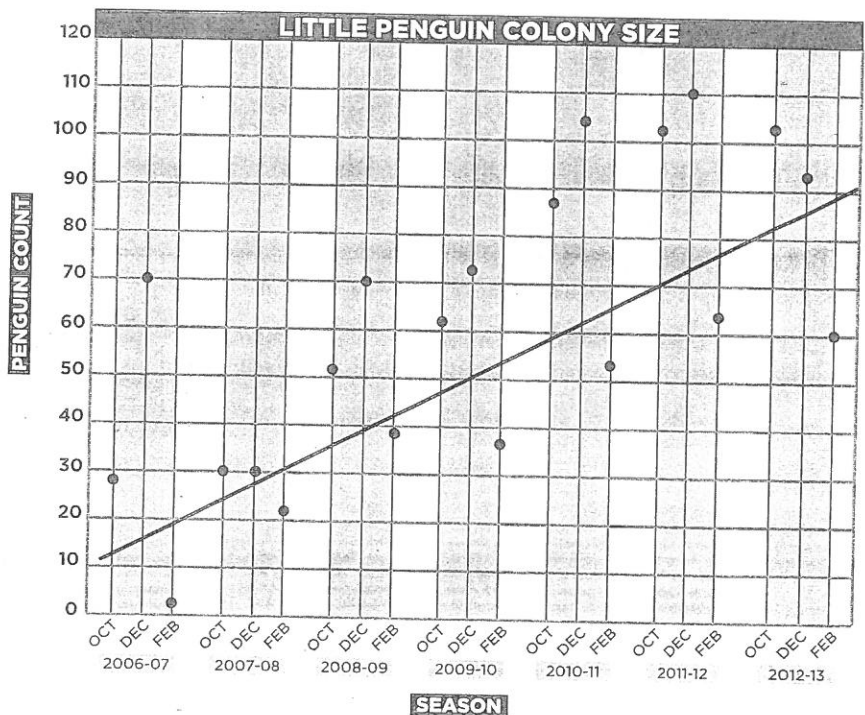
### Made in Asia

Answers will vary depending on your class size and where the tops were made.

## BACK PAGE

### The Hobbit Returns

- A
- B
- B
- A
- A



# ANSWERS

## TG PAGE 5

### Skills Review

1. B
2.  $49^\circ$
3.  $63^\circ$
4. 600 miles
5. a negative relationship
6. 0.875
7.  $360^\circ$
8. B
9. D
10. A point should be labeled at  $(-9, 2)$

## TG PAGE 6

### Problem of the Day

1.  $3\frac{1}{4}$  cups
2. 0.266
3. 24 inches
4. 35,493 feet per second
5. 1 inch = 223 miles
6. 0.9% increase
7. Angles C and D
8.  $3\frac{5}{7} + 3\frac{1}{2}$ ,  $6\frac{1}{4} + 1\frac{1}{2}$
9.  $3x + 8$
10. 54
11. 44 inches

12. 6.1 cm
13. 4.5 turns
14.  $2\frac{3}{4}$ , 2.75,  $\frac{22}{8}$
15. 3 hours, 46 minutes
16. 0.45
17. (3, 5)
18.  $45.6^\circ$
19. 75¢
20. Answers will vary. Encourage students to check each other's work.

To find the answers online, click on "Teaching Resources."

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