There's **Power** In Numbers

stjude.org/math

St. Jude patients and friends
Jaxon and **Clayton**

St. Jude Children's®
Research Hospital

St. Jude
Math-A-Thon

Dear Teachers,

Thank you for considering the St. Jude Children's Research Hospital® Math-A-Thon™ for your school. For more than 40 years, this program has helped children of all ages sharpen their math skills while learning the importance of helping others.

Developed in association with Scholastic, the St. Jude Math-A-Thon program:
• Meets Common Core State standards
• Challenges your kids with engaging math activities
• Provides an excellent supplement for your existing curriculum
• Includes an exciting, educational adventure featuring The Numerators®
• Gives simple step-by-step instructions for online fundraising

This sample Funbook contains one-page curriculum materials for each grade level from K through 8. Student Funbooks include inspiring patient stories, hospital information and an answer key so parents can participate and check answers.

Visit **stjude.org/math** or call 1.800.FUNBOOK (1-800-386-2665) for more information.

Sincerely,
Your St. Jude Support Team

St. Jude patients and friends
Jaxon and **Clayton**

# Common Core State Standards

Curriculum by:
SCHOLASTIC

Level	Title	Common Core State Standards (CCSS)
K	Jungle Hide and Seek	**CCSS.Math.Content.K.CC.A.3**: Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects). **CCSS.Math.Content.K.CC.B.5**: Count to answer "how many?" Questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration. **CCSS.Math.Content.K.CC.C.6**: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group (e.g., using matching and counting strategies).
1	Line Up	**CCSS.Math.Content.1.NBT.A.1**: Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
2	Mysterious Missing Numbers	NA to grade 2.
3	Number Puzzler	NA to grade 3.
4	This Land Is Your Land	**CCSS.Math.Content.4.NBT.A.2**: Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
5	The Solar System and the Sun: Far Out!	**CCSS.Math.Content.5.NBT.A.1**: Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
6	Reboot the Robot	**CCSS.Math.Content.6.NS.A.1**: Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions (e.g., by using visual fraction models and equations to represent the problem).
7	Beware the Dis-Count!	**CCSS.Math.Content.7.RP.A.3**: Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.
8	"Tri," "Tri" Again, Ninjas!	**CCSS.Math.Content.8.G.A.5**: Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

Jungle Hide and Seek

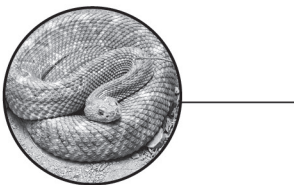This jungle is filled with wild animals! Count each animal. Write down how many you see.

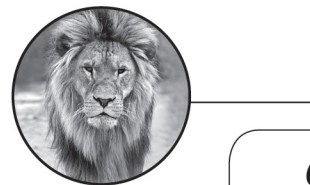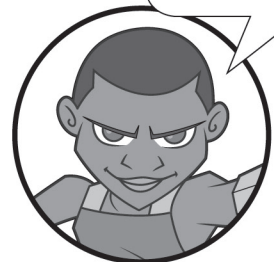1. _____
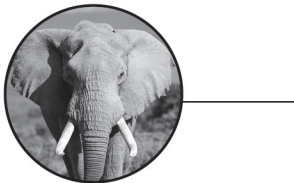
2. _____

3. _____

4. _____

5. _____

6. _____

7. Which animal do you see the most? _____

8. Which animal do you see the least? _____

Good counting!

Line Up

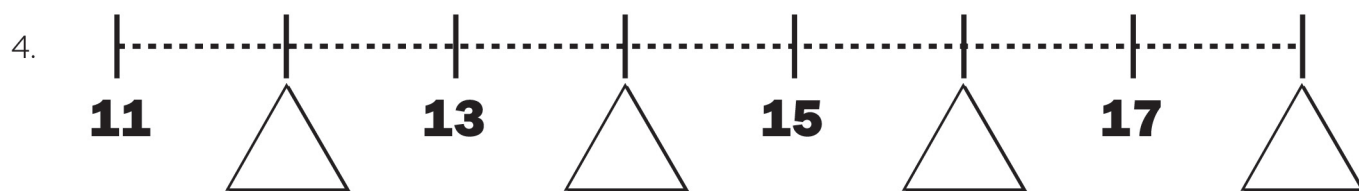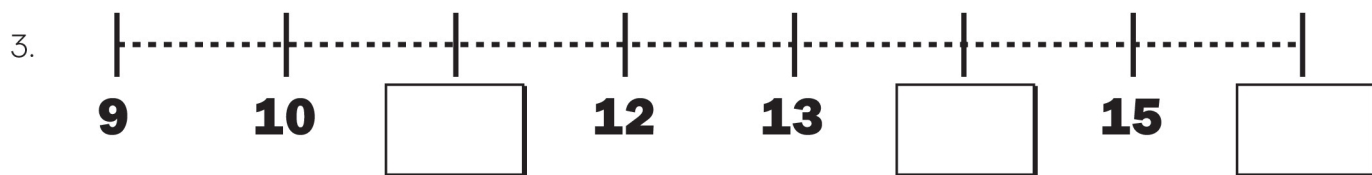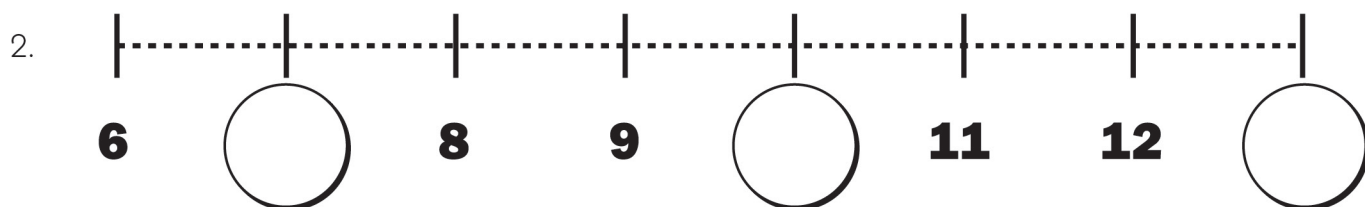Robots took a bite out of these number lines!
Write the missing numbers in the shapes below.

1. **0   1   ☐   3   4   5   ☐   7**

2. **6   ◯   8   9   ◯   11   12   ◯**

3. **9   10   ☐   12   13   ☐   15   ☐**

4. **11   △   13   △   15   △   17   △**

5. **⬡   14   15   ⬡   17   ⬡   19   ⬡**
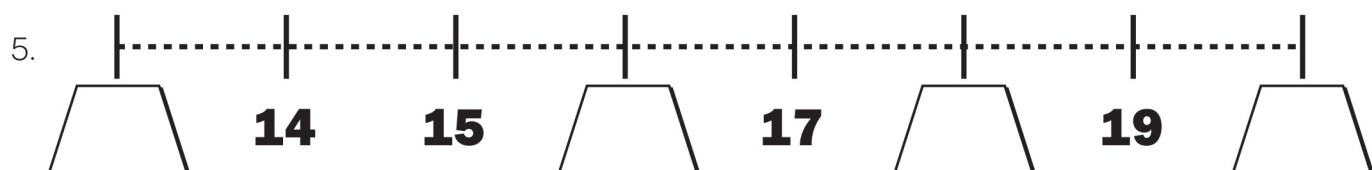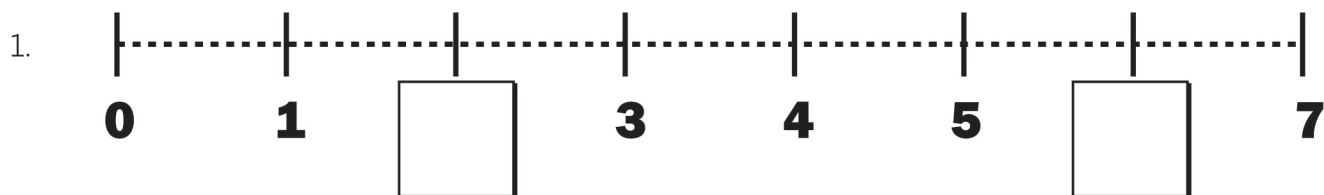
Mysterious Missing Numbers

What are the missing numbers? Think about number patterns to help you.

1.

33	34	
	44	45
53		

2.

15			18
	26		

3.

			30
	38		
47			

4.

	77		
		88	

5.

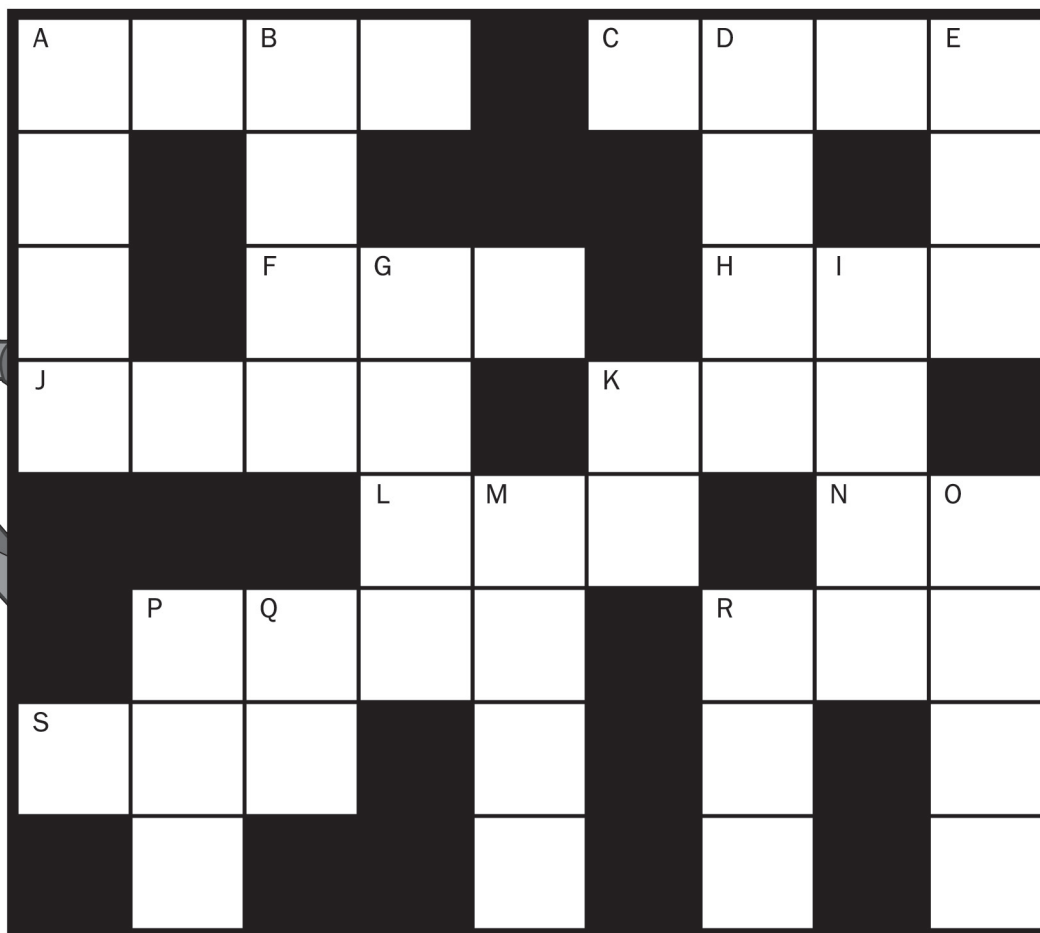| | | 25 |
32		
	54	

6.

		100

Number Puzzler

Use the clues below to complete the puzzle.

ACROSS

A. Three thousand, four hundred ninety-eight

C. 1 thousand, 2 hundreds, 6 tens, 7 ones

F. 10 more than 125

H. 400 + 50 + 6

J. Eight thousand, two hundred forty-one

K. 90 more than 804

L. 200 + 50 + 2

N. 30 more than 2

P. 4,000 + 200 + 30 + 7

R. 3 hundreds, 5 ones

S. 100 less than 1,003

DOWN

A. 3,000 + 500 + 8

B. Nine thousand, three hundred fourteen

D. 2 thousands, 4 tens, 9 ones

E. 2 hundred less than 916

G. 3 thousands, 1 hundred, 2 tens, 3 ones

I. Five thousand, four hundred thirty

K. 100 less than 182

M. 5,000 + 700 + 30 + 4

O. 2 thousands, 5 hundreds, 9 tens

P. 400 + 9

Q. Twenty-three

R. 300 + 90 + 1

This Land Is Your Land

Read the information about each state below.
Then write the standard form (numerals) for the area of each state.

1. California is home to the Golden Gate Bridge. Its area in square miles is 100,000 + 50,000 + 8,000 + 600 + 40 + 8.

   Area: _____

2. Illinois has an area of 50,000 + 6,000 + 300 + 40 + 3 square miles. It is home to Abraham Lincoln and Barack Obama.

   Area: _____

3. Check out the Great Lakes in Michigan. The state's area is fifty-eight thousand, five hundred thirteen square miles.

   Area: _____
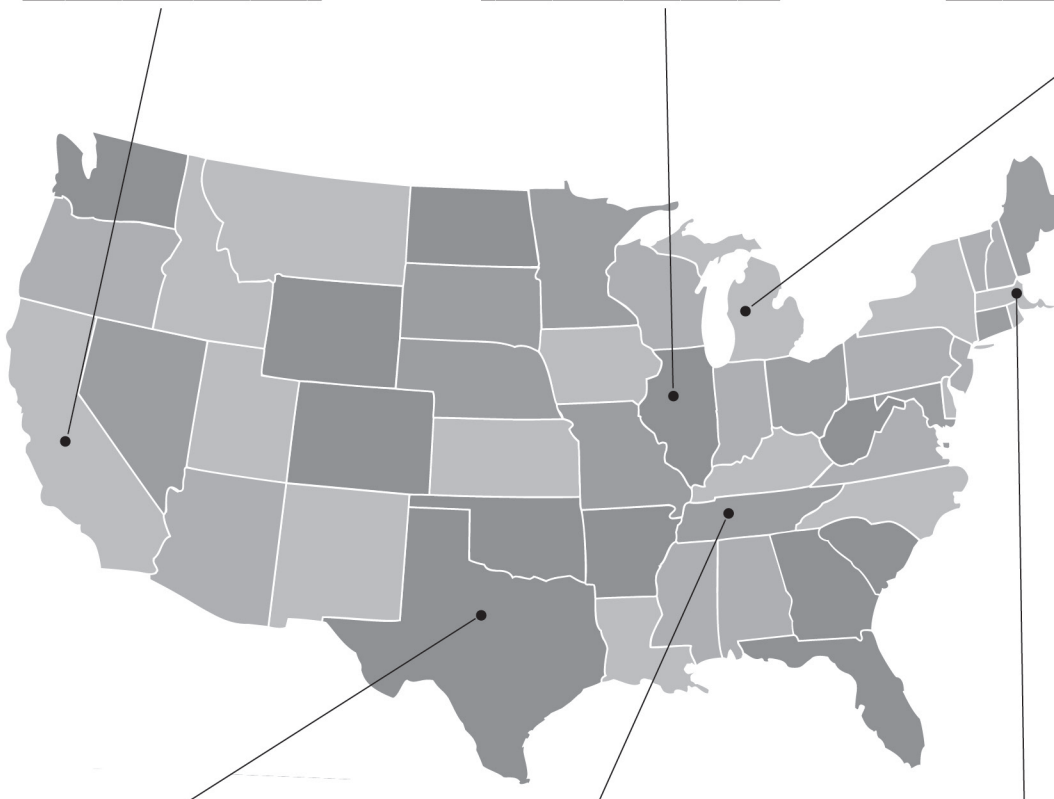
4. With an area of two hundred sixty-six thousand, eight hundred seventy-four square miles, Texas is second in size only to Alaska.

   Area: _____

5. Tennessee is home to St. Jude Children's Research Hospital. Its area is forty-two thousand, one hundred forty-six square miles.

   Area: _____

6. At 8,000 + 200 + 60 + 2 square miles, Massachusetts is home to the sites of the Boston Tea Party and Paul Revere's midnight ride.
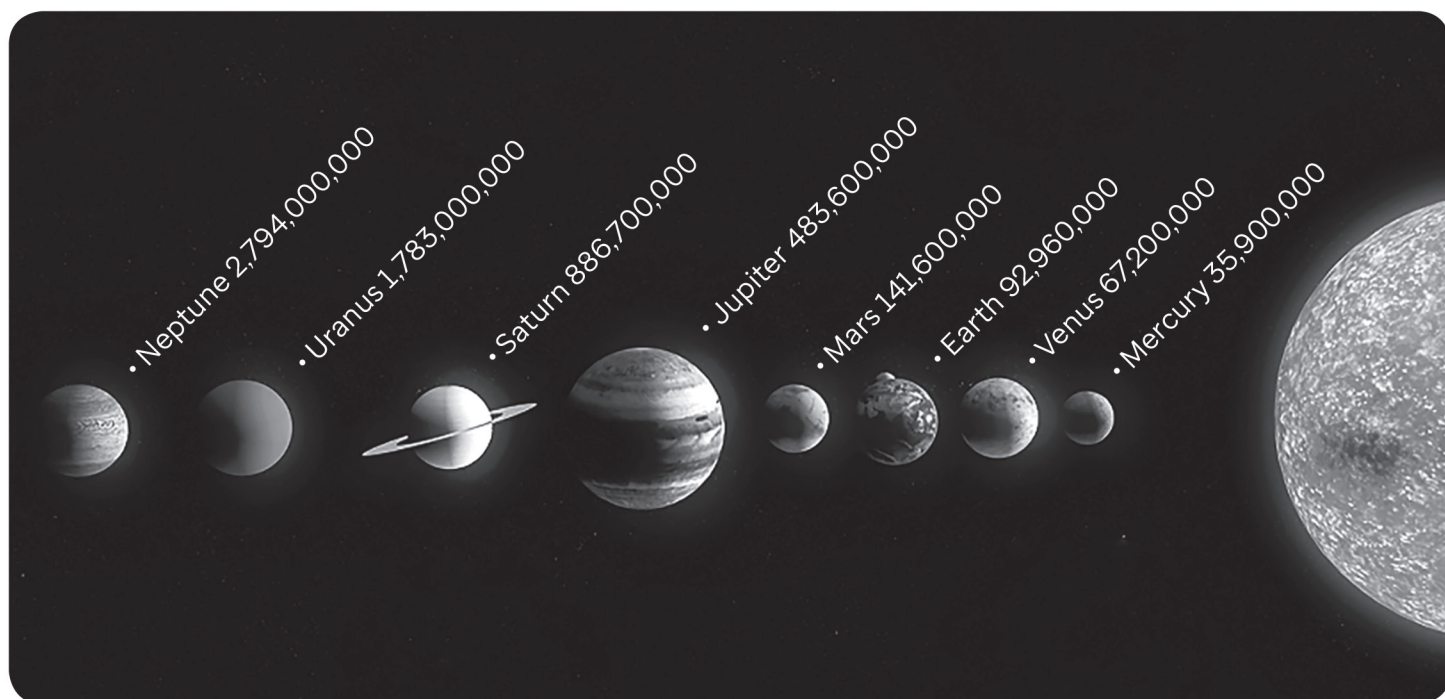
   Area: _____

7. Take a field trip across this great land! Connect the dots starting from the state you labeled with the smallest area and working your way to the state you labeled with the greatest area.

The Solar System and the Sun: Far Out!

The Numerators® are flying into space to measure each planet's distance from the sun (in miles)! Read each number name below. Write the standard form of the number on each blank line. Then look at the chart to see how "far out" each planet is, and write each planet's name next to the correct answer.

1. Thirty-five million, nine hundred thousand miles

2. Eight hundred eighty-six million, seven hundred thousand miles

3. Ninety-two million, nine hundred sixty thousand miles

4. Two billion, seven hundred ninety-four million miles

5. Four hundred eighty-three million, six hundred thousand miles

6. Sixty-seven million, two hundred thousand miles

7. One billion, seven hundred eighty-three million miles

8. One hundred forty-one million, six hundred thousand miles

1. _____ _____

2. _____ _____

3. _____ _____

4. _____ _____

5. _____ _____

6. _____ _____

7. _____ _____

8. _____ _____

• Neptune 2,794,000,000
• Uranus 1,783,000,000
• Saturn 886,700,000
• Jupiter 483,600,000
• Mars 141,600,000
• Earth 92,960,000
• Venus 67,200,000
• Mercury 35,900,000

Reboot the Robot

A giant robot has attacked the Numerators®! But a secret code phrase will deactivate it. While the Numerators battle the 'bot, they need you to find the secret phrase. Solve each fraction division problem and write your answers in simplest form. After you solve all the problems, you'll find some of your answers beneath the blanks below. Write the letter that is next to each answer in the blank above the correct fraction.

1. $1/3 \div 1/6 =$ _____ = E

2. $5 \div 1/5 =$ _____ = T

3. $1/4 \div 3/4 =$ _____ = A

4. $5/8 \div 1/4 =$ _____ = P

5. $2 \div 2/5 =$ _____ = S

6. $6 \div 2\ 1/3 =$ _____ = D

7. $2/7 \div 3/10 =$ _____ = O

8. $5 \div 5\ 2/3 =$ _____ = L

9. $5\ 1/6 \div 3\ 1/3 =$ _____ = N

10. $1\ 7/8 \div 3\ 1/2 =$ _____ = Y

What is the secret phrase that will shut down the robot?

____ _____ ____   _____ _____ ____ ____ _____!
2 1/2 15/17 1/3   15/28   2 4/7   2   1/3   2 4/7

Beware the Dis-Count!

If you shop at the Dis-Count's Discount Cape Emporium, prepare to have extra money taken from you—unless you can calculate the discounted prices or the sales tax. Help the Numerators® keep the Dis-Count from biting into his customers' wallets! If necessary, round to the nearest cent.

1. A $50 cape is on sale for 25% off. What is the discounted price?

_____

2. $36 cape, 10% off. Discounted price:

_____

3. $43 cape, 5% sales tax. Price with tax:

_____

4. $28 cape, 20% off. Discounted price:

_____

5. $35 cape, 4.5% sales tax. Price with tax:

_____

6. $73 cape, 33% discount. Discounted price:

_____

7. $65 cape, 18% discount, 5% sales tax. (Calculate the tax based on the original price.) Price with discount and tax:

_____

8. A cape was on sale for 30% off. Its sale price was $126. What was the original price?

_____

Whew! You saved everyone... money!

9. The sales tax on a cape was 6%, and total price with tax was $92.75. What was the price of the cape?

_____

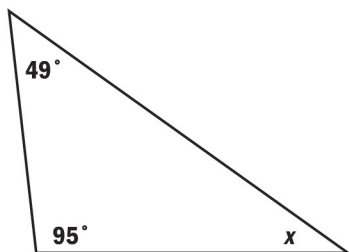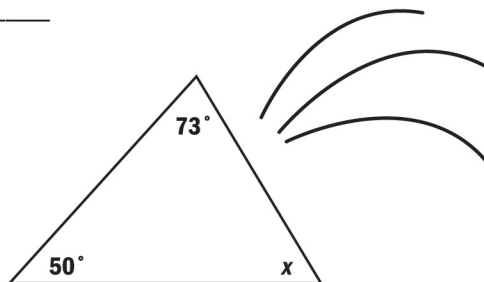10. A cape was on sale for 25% off. Its sale price was $176.25. What was the original price?

_____

"Tri," "Tri" Again, Ninjas!

The Numerators® are under attack by the Math Ninjas! While they fight them off, you find the missing angle in each of their triangular weapons shown!
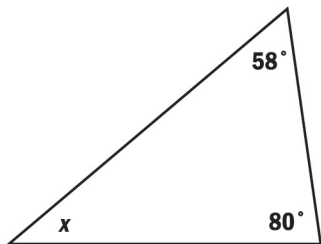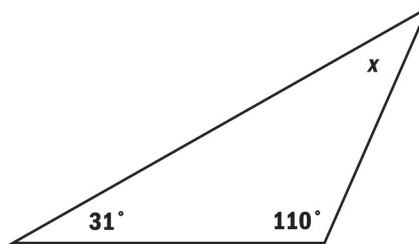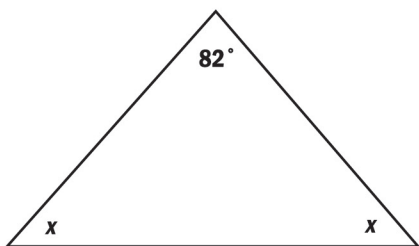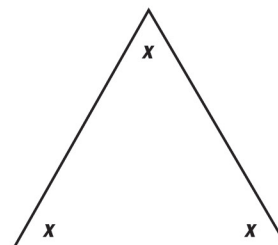
1. x = _____

49°
95°   x

2. x = _____

73°
50°   x

3. x = _____

58°
x   80°

4. x = _____

x
31°   110°

5. x = _____

82°
x   x

6. x = _____

x
x   x

7. x = _____

2x
x   48°

8. x = _____

x
57°   x – 24
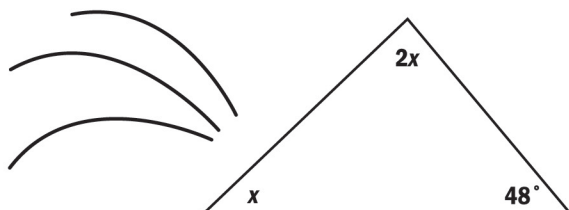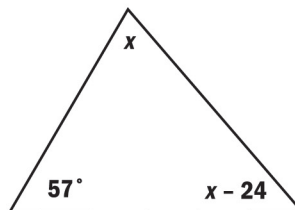
Whew! Thanks for helping us take care of those nasty ninjas!

Answer Key

Level K
Jungle Hide and Seek
1. 5
2. 3
3. 2
4. 5
5. 6
6. 3
7. tiger
8. giraffe

Level 1
Line Up
1. 2, 6
2. 7, 10, 13
3. 11, 14, 16
4. 12, 14, 16, 18
5. 13, 16, 18, 20

Level 2
Mysterious Missing Numbers
1. 35, 43, 54, 55
2. 16, 17, 27, 37
3. 27, 28, 29, 40, 48
4. 66, 67, 68, 78, 86
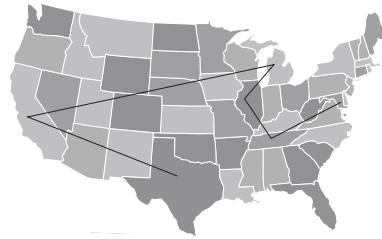5. 22, 24, 34, 42, 45, 52, 53
6. 68, 69, 70, 79, 87, 89, 97, 98

Level 3
Number Puzzler

Level 4
This Land Is Your Land

1. California: 158,648 square miles
2. Illinois: 56,343 square miles
3. Michigan: 58,513 square miles
4. Texas: 266,874 square miles
5. Tennessee: 42,146 square miles
6. Massachusetts: 8,262 square miles
7. See map above.

Level 5
The Solar System and the Sun: Far Out!
1. 35,900,000 miles; Mercury
2. 886,700,000 miles; Saturn
3. 92,960,000 miles; Earth
4. 2,794,000,000 miles; Neptune
5. 483,600,000 miles; Jupiter
6. 67,200,000 miles; Venus
7. 1,783,000,000 miles; Uranus
8. 141,600,000 miles; Mars

Level 6
Reboot the Robot
1. 2
2. 25
3. 1/3
4. 2 1/2
5. 5
6. 2 4/7
7. 20/21
8. 15/17
9. 1 11/20
10. 15/28
PLAY DEAD!

Level 7
Beware the Dis-Count!
1. $37.50
2. $32.40
3. $45.15
4. $22.40
5. $36.58
6. $48.91
7. $56.55
8. $180.00
9. $87.50
10. $235.00

Level 8
"Tri," "Tri" Again, Ninjas!
1. $x = 36°$
2. $x = 57°$
3. $x = 42°$
4. $x = 39°$
5. $x = 49°$
6. $x = 60°$
7. $x = 44°$; $(2x = 88°)$
8. $x = 73.5°$; $(x - 24 = 49.5°)$

Visit **stjude.org/mathresources** to access exclusive online tools to make your event a success.

The website includes:
+ Resources for students and parents
+ A current list of fundraising prizes
+ Patient stories and videos to inspire and educate students

Take your fundraising efforts to the next level with the easy-to-use St. Jude Math-A-Thon website, which allows you to manage fundraising efforts, raise more money and save time.

After registering, you can:
+ Access the online St. Jude Math-A-Thon Funbook
+ Create your school's web page and set your fundraising goal
+ Customize emails to ask participants to sign up and request donations and thank donors
+ Spread the word about your event and request donations through social networks like Facebook and Twitter
+ Accept online donations and track your fundraising progress

St. Jude Children's® Research Hospital

St. Jude
Math-A-Thon

mathathon.org | mathathon@stjude.org | #stjudemathathon | 1-800-386-2665