There's **Power** In Numbers

stjude.org/math

St. Jude patient
Kylan

St. Jude Children's® Research Hospital

St. Jude Math-A-Thon

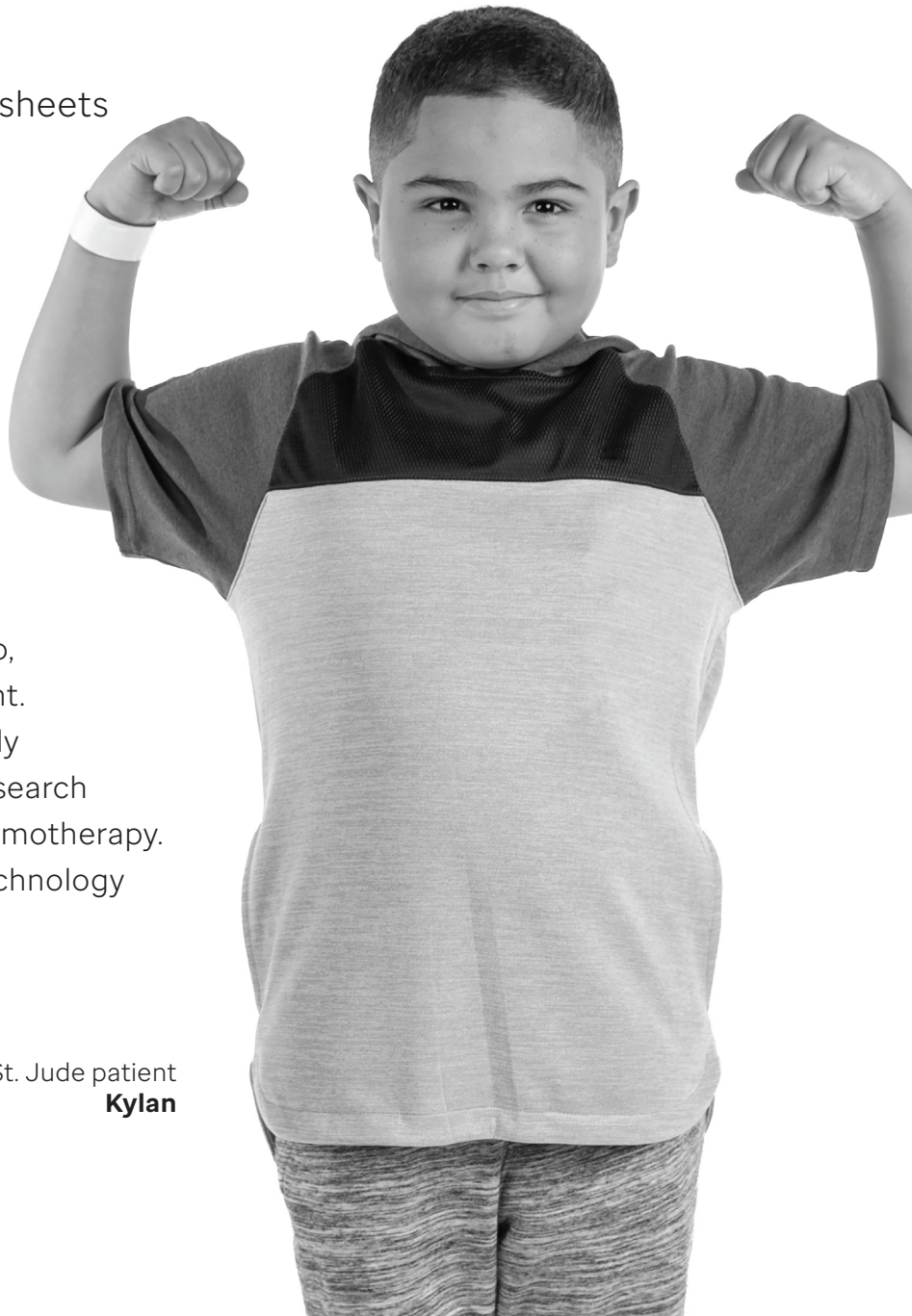# Welcome to The St. Jude Math-A-Thon®!

Thank you for supporting St. Jude Children's Research Hospital®. Because of fundraising programs like St. Jude Math-A-Thon and supporters like you, St. Jude is leading the way the world understands, treats and defeats childhood cancer and other life-threatening diseases. You're an important part of making this fundraiser a success, and participation is easy:

1 Raise money online using the tools available at **stjude.org/math**

2 Complete the math worksheets in this workbook

3 Earn cool prizes!

Meet Kylan

Kylan was diagnosed with acute lymphoblastic leukemia in Puerto Rico, where he initially underwent treatment. In 2018, when Kylan relapsed, his family was referred to St. Jude Children's Research Hospital®, where he is undergoing chemotherapy. Kylan is an outgoing boy who loves technology and baseball.

St. Jude patient
Kylan

How Math Helps St. Jude

Math is used every day on the St. Jude campus. From careful measurements for patient medicine to the complex mathematics needed in our state-of-the-art research facilities, numbers play an important role in helping our patients. As you complete each worksheet, know that you're sharpening important skills that are used every day to help the kids of St. Jude.

- The St. Jude campus is always expanding to further our scientific research and create more cures. Math plays an important role in our fundraising efforts.

- Did you know it can cost on average $425,000 for a family to fight childhood cancer? Your Math-A-Thon fundraising efforts transform that big number into zero! Families never receive a bill from St. Jude for treatment, travel, housing or food—because all a family should worry about is helping their child live.

- Some of our research facilities can use quite a bit of power—way more than your typical building. Special places like our Proton Therapy Center require lots and lots of power. Luckily our engineers are able to use math to make sure everything keeps running smoothly.

Ready to Sign Up?

St. Jude relies on the power in numbers. Math plays a vital role in nearly every aspect of our campus, but the strength in numbers is never more powerful than when it helps our patients. That's where you come in—turn to the back page of your funbook to start the sign up process. You can even have your parents scan the QR code and sign up online.
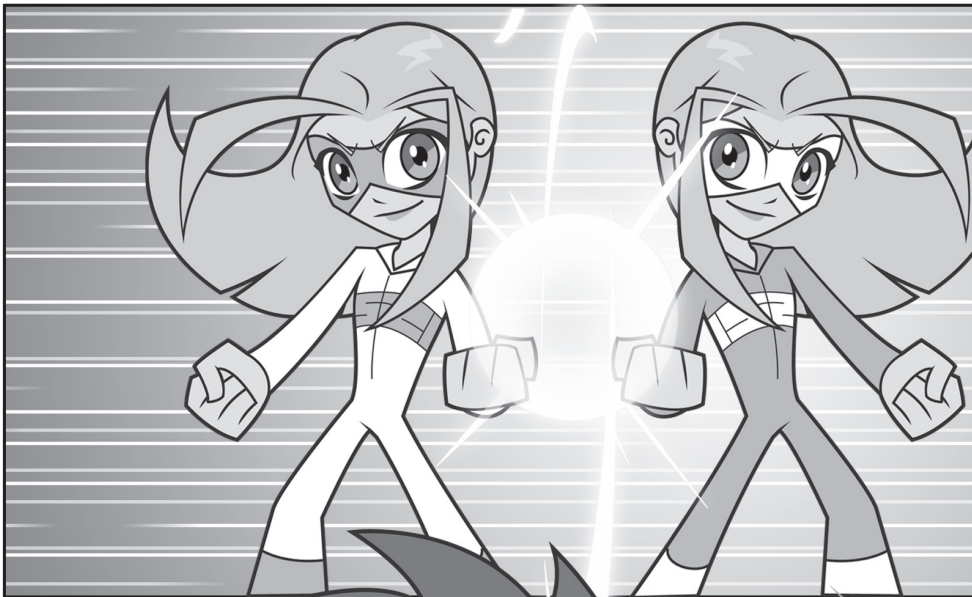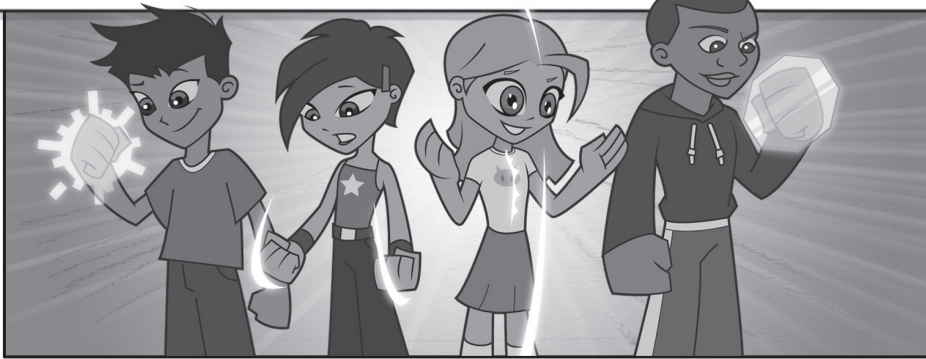
St. Jude patient
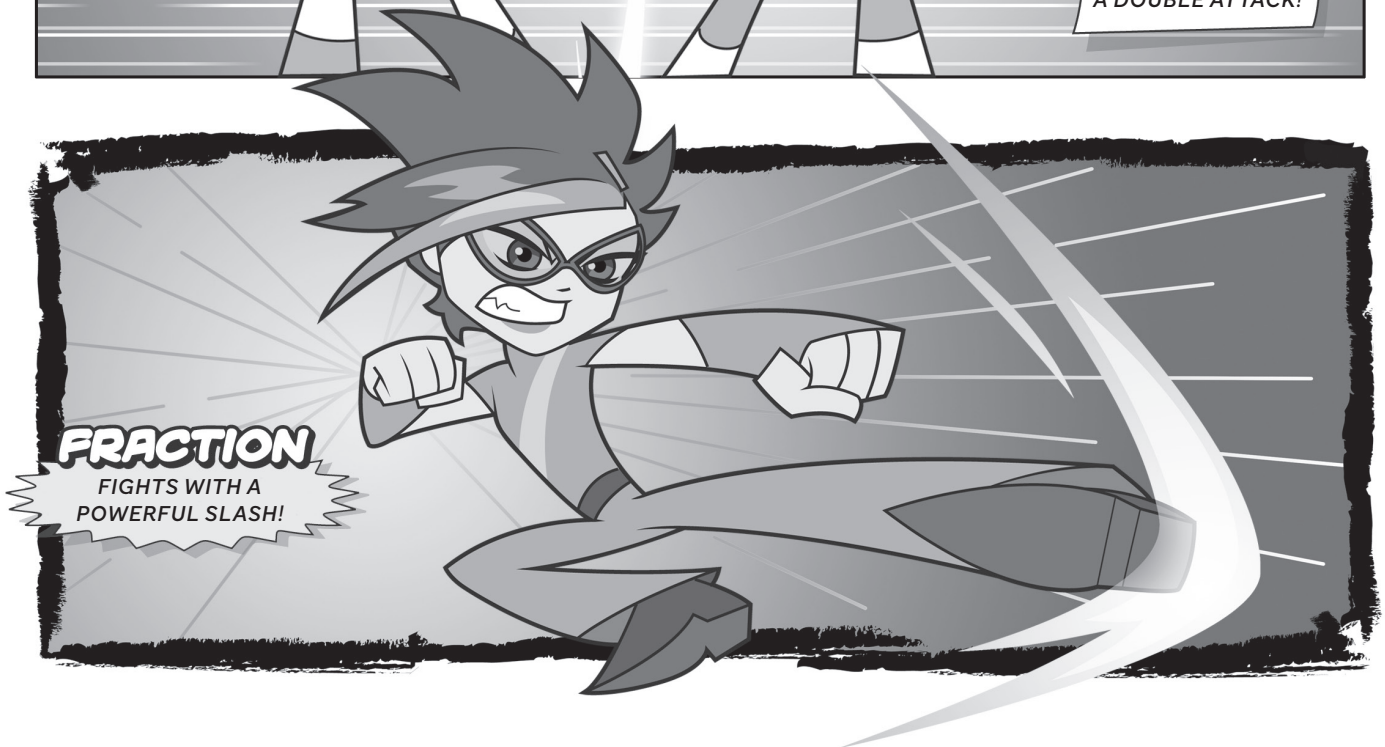**Aiden**

MEET THE NUMERATORS

My name is Dr. Jax. Once there were four regular kids who studied math in school, just like you. I helped them turn their math skills into amazing super powers. Now, these students call themselves The Numerators. They use their powers to protect other kids in danger.

That's why The Numerators used their math powers to help St. Jude Children's Research Hospital®. They were helping to raise money to find cures for very sick children with diseases like cancer.
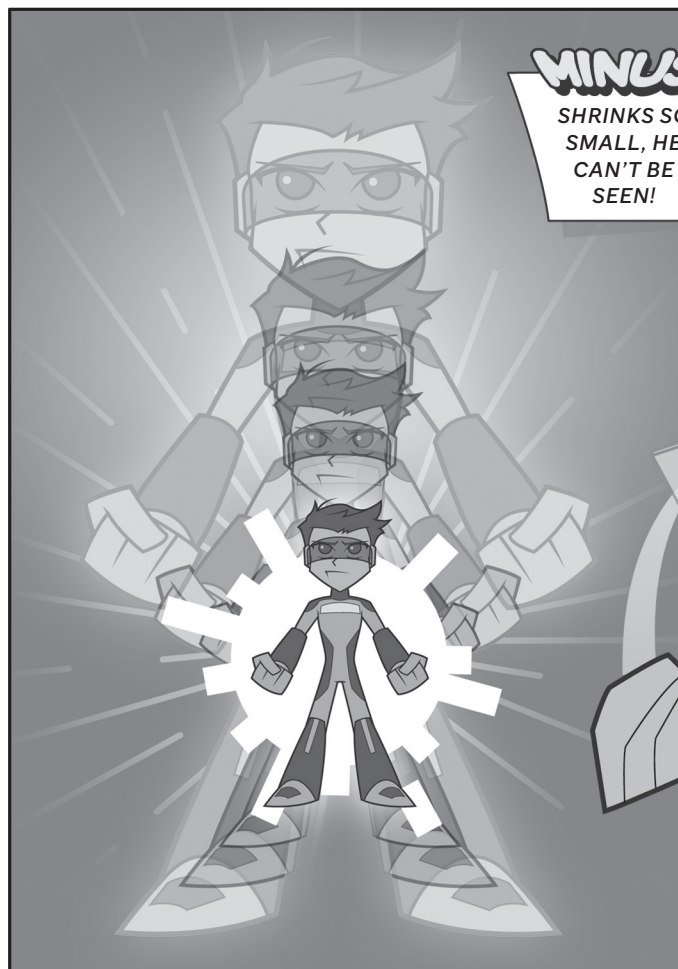
SYMMETRY
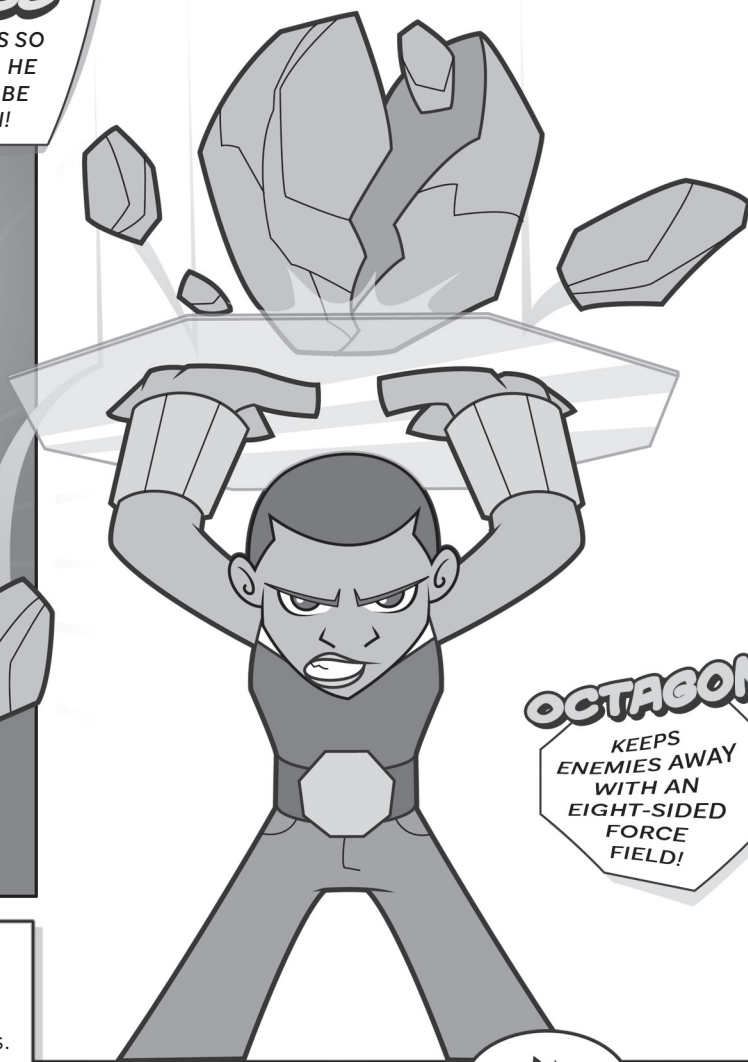*SPLITS INTO EQUAL PARTS FOR A DOUBLE ATTACK!*

FRACTION
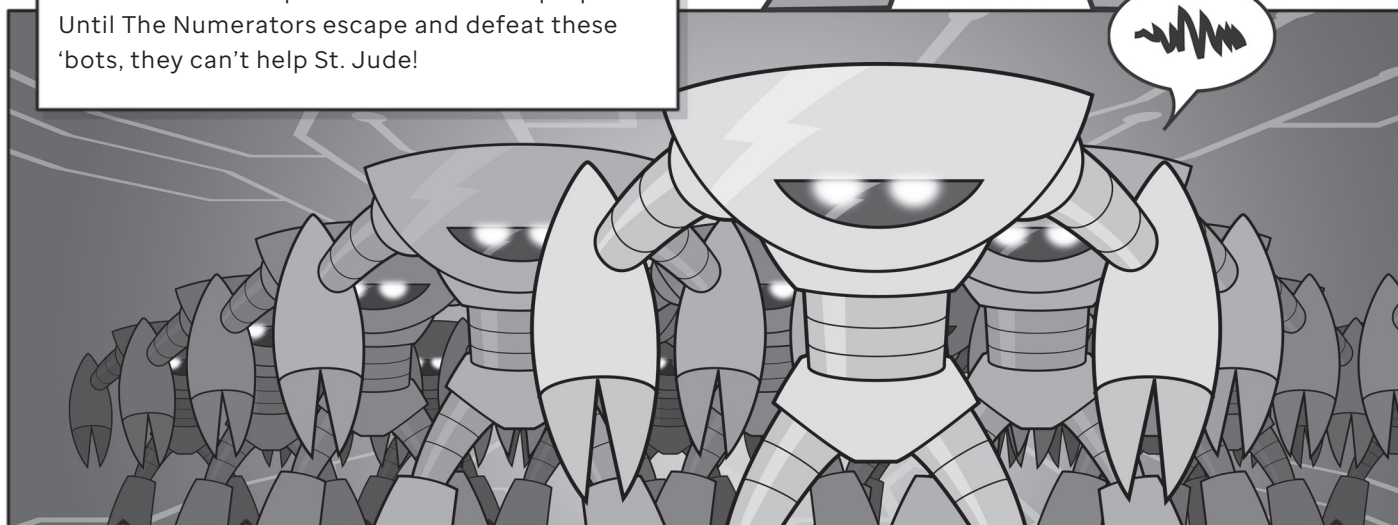*FIGHTS WITH A POWERFUL SLASH!*

MINUS
SHRINKS SO SMALL, HE CAN'T BE SEEN!

OCTAGON
KEEPS ENEMIES AWAY WITH AN EIGHT-SIDED FORCE FIELD!

But, robots launched a surprise attack on our heroes. The robots wanted to steal The Numerators' math powers for their own purposes. Until The Numerators escape and defeat these 'bots, they can't help St. Jude!

You can use your own math skills to help The Numerators and the kids of St. Jude. Just fill out this St. Jude Math-A-Thon Funbook to help our heroes escape the robots. You'll also help raise money for St. Jude at the same time. So get your pencils ready and start your math adventure today!

This Land Is Your Land

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

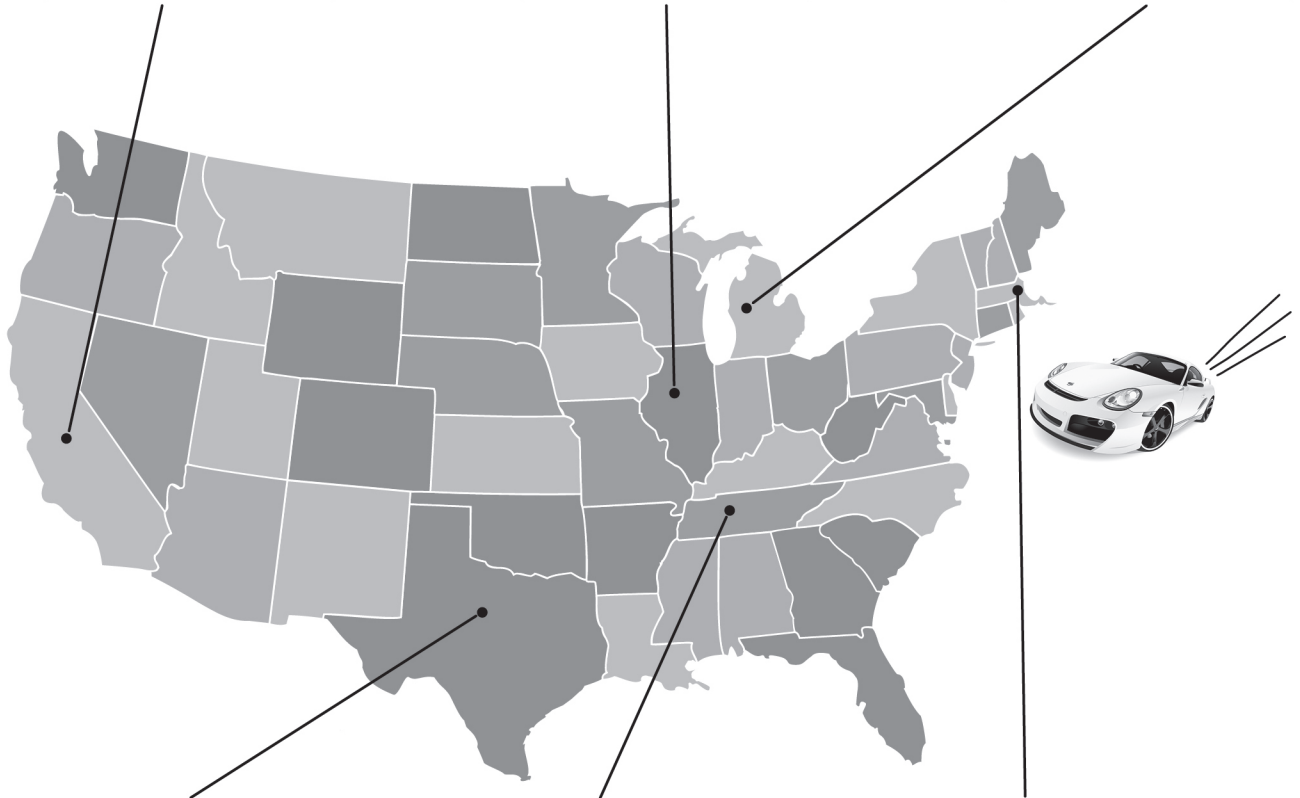1. California is home to the Golden Gate Bridge. Its area in square miles is 100,000 + 50,000 + 8,000 + 600 + 40 + 8.

   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.
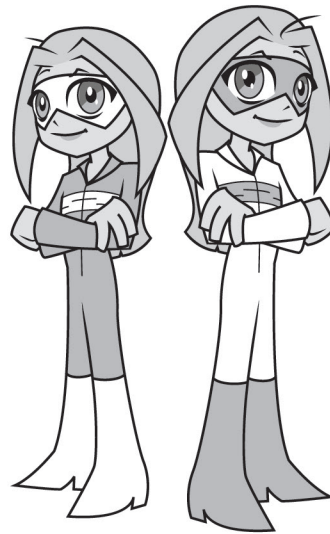
   Area: _____

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.

Score Four Words

Help The Numerators in their battle against the Robots! Complete the chart to find each letter's value. Add the values for each three-letter "action" word below.

Letter	Expression	Value
B	45 ÷ 9	
A	16 ÷ 8	
Z	48 ÷ 6	
O	8 x 8	
P	56 ÷ 8	
M	7 x 7	
W	9 x 6	

POW
___ (P)

+ ___ (O)

+ ___ (W)

= ___

BAM
___ (B)

+ ___ (A)

+ ___ (M)

= ___

BOP
___ (B)

+ ___ (O)

+ ___ (P)

= ___

ZAP
___ (Z)

+ ___ (A)

+ ___ (P)

= ___

Special Species

Look for a pattern in each list of numbers below. Write the missing number for each pattern. Then, find the value in the chart below to find the number of living species of each type of creature. We've done the first one for you.

1. 45   450   _____**4,500**_____

   The pattern is ____*multiply by 10*____.

   There are __4,500__ species of __mammals__.

2. 7   70   700   _____

   The pattern is _____.

   There are _____ species of _____.

3. 900,000   90,000   _____   900

   The pattern is _____.

   There are _____ species of _____.

4. 1   100   10,000   _____

   The pattern is _____.

   There are _____ species of _____.

5. 130   _____   1,300,000

   The pattern is _____.

   There are _____ species of _____.

6. 250,000   _____   2,500   250

   The pattern is _____.

   There are _____ species of _____.

7. Write a number pattern that ends with 500,000. Tell about your pattern.

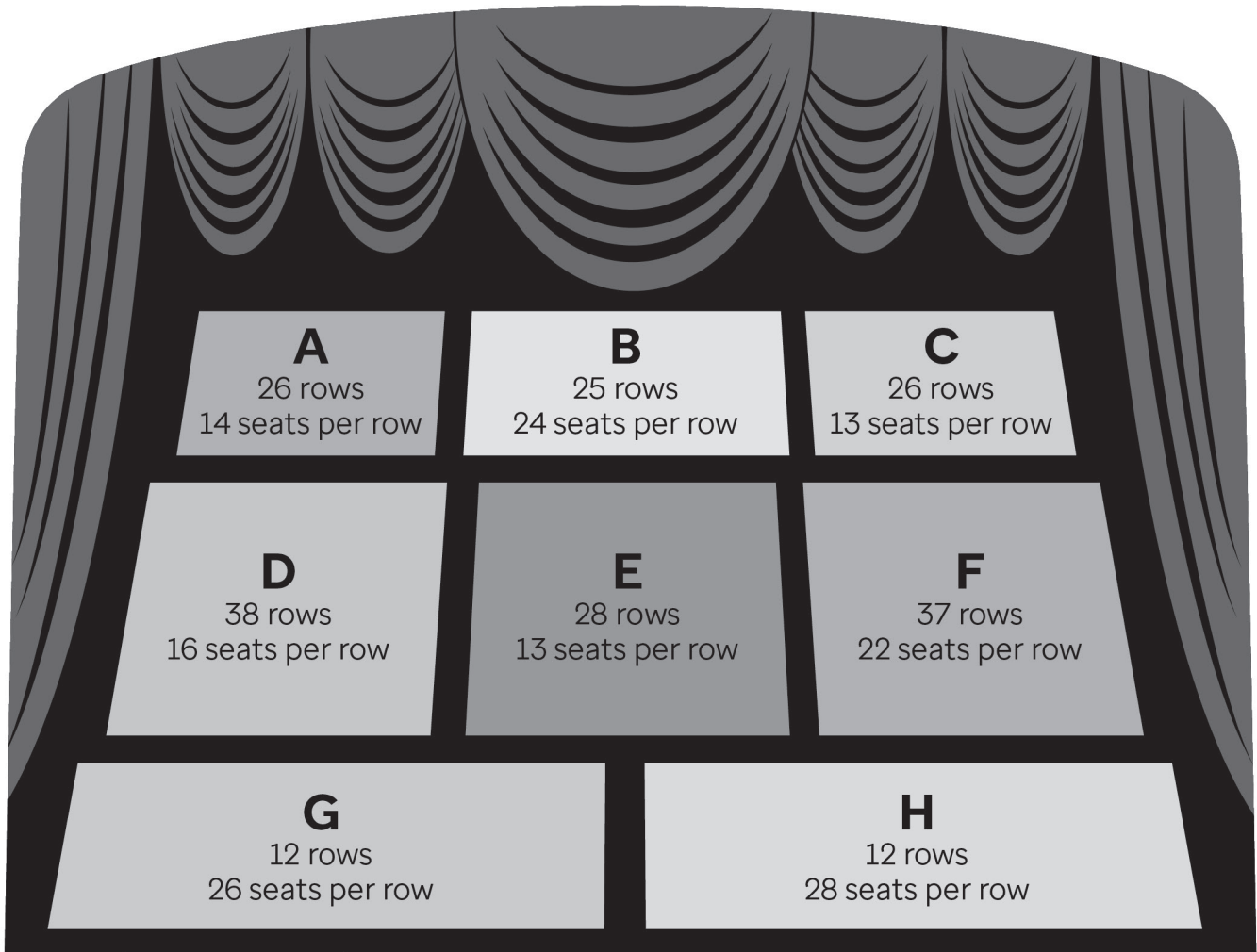|		
25,000 worm species	4,500 mammal species	7,000 reptile species
13,000 fish species	9,000 bird species	1,000,000 insect species

A *species* is a basic classification of individuals that resemble one another or have similar characteristics.

On Stage

Put on a show! Find the number of seats in each section of the theatre.

A 26 rows 14 seats per row	**B** 25 rows 24 seats per row	**C** 26 rows 13 seats per row
D 38 rows 16 seats per row	**E** 28 rows 13 seats per row	**F** 37 rows 22 seats per row
G 12 rows 26 seats per row		**H** 12 rows 28 seats per row

Section A: _____ seats   Section B: _____ seats   Section C: _____ seats   Section D: _____ seats

Section E: _____ seats   Section F: _____ seats   Section G: _____ seats   Section H: _____ seats

1. Suppose a total of 3,572 seats were sold for a performance. How many seats in the theatre would be empty that evening? _____

2. Explain how you found your answer. _____

_____

_____

_____

America's Lanky Landmarks

These four unique landmarks seem to touch the sky. Which is tallest? To find out, find the products beside each landmark. Write the thousands digit of each product in order. The result will reveal the landmark's height.

Gateway Arch
St. Louis, Missouri

| 1. | 867 | 2. | 428 | 3. | 2,618 | _____ |
| | x 7 | | x 8 | | x 4 | feet tall |

Washington Monument
Washington, D.C.

| 4. | 961 | 5. | 809 | 6. | 1,816 | _____ |
| | x 6 | | x 7 | | x 3 | feet tall |

Statue of Liberty
New York City, New York

| 7. | 485 | 8. | 3,456 | 9. | 1,324 | _____ |
| | x 7 | | x 3 | | x 4 | feet tall |

Space Needle
Seattle, Washington

| 10. | 3,295 | 11. | 5,087 | 12. | 3,077 | _____ |
| | x 2 | | x 2 | | x 5 | feet tall |

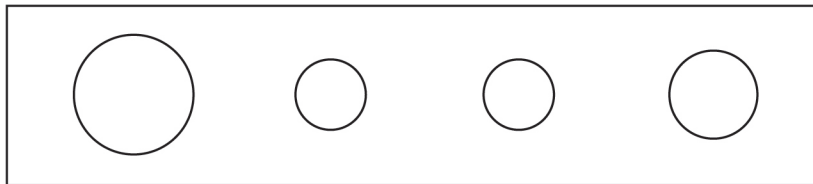13. To which state would you travel to see the tallest landmark?
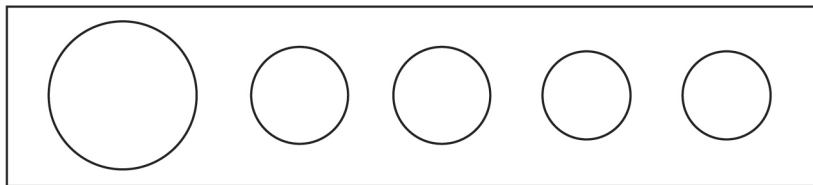
_____

Money Riddles

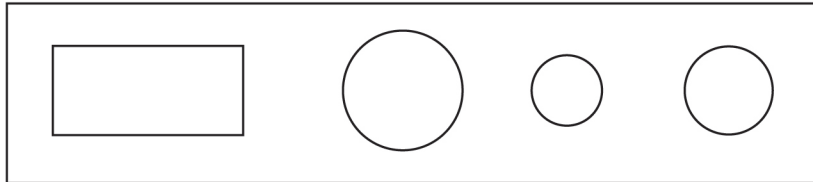Solve each riddle. Write the money amounts on the coins or bills.

1. I have 46¢. Two coins are dimes.
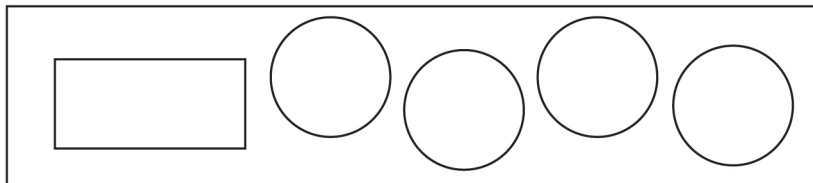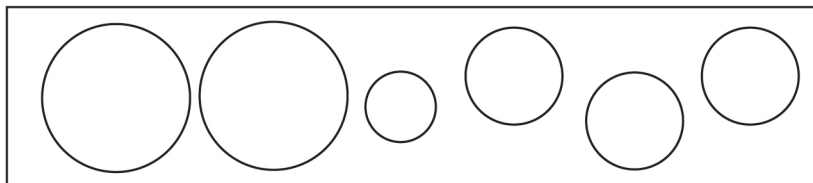
2. I have 62¢. One coin is a half dollar.

3. I have $1.36.

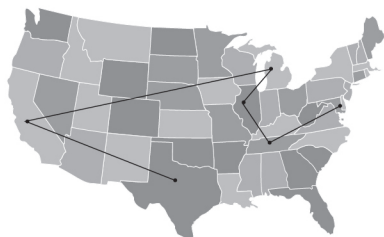4. I have $2.00.

5. I have $1.25. I do not have any quarters.

Answer Key

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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.

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Score Four Words

B = 5, A = 2, Z = 8, O = 64, P = 7,
M = 49, W = 54
POW; 7 + 64 + 54 = 125
BAM; 5 + 2 + 49 = 56
BOP; 5 + 64 + 7 = 76
ZAP; 8 + 2 + 7 = 17

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Special Species

1. 4,500; multiply by 10; 4,500; mammals
2. 7,000; multiply by 10; 7,000; reptiles
3. 9,000; divide by 10; 9,000; birds
4. 1,000,000; multiply by 100; 1,000,000; insects
5. 13,000; multiply by 100; 13,000; fish
6. 25,000; divide by 10; 25,000; worms
7. Responses will vary. One response: 50; 5,000; 500,000; multiply by 100

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On Stage

A: 364 seats, B: 600 seats, C: 338 seats, D: 608 seats,
E: 364 seats, F: 814 seats, G: 312 seats, H: 336 seats
1. 164 seats, 2. I subtracted 3,572, the number of tickets sold, from 3,736, the sum of all the sections

Page 9
America's Lanky Landmarks

1. 6,069
2. 3,424
3. 10,472 [Gateway Arch: 630 feet tall]
4. 5,766
5. 5,663
6. 5,448 [Washington Monument: 555 feet tall]
7. 3,395
8. 10,368
9. 5,296 [Statue of Liberty: 305 feet tall]
10. 6,590
11. 10,174
12. 15,385 [Space Needle: 605 feet tall]
13. Missouri

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On Stage

1. 25¢, 10¢ 10¢, 1¢
2. 50¢, 5¢, 5¢, 1¢, 1¢
3. $1.00, 25¢, 10¢, 1¢
4. $1.00, 25¢, 25¢, 25¢, 25¢
5. 50¢, 50¢, 10¢, 5¢, 5¢, 5¢

St. Jude patient
Brinley

Check out **stjude.org/math** to start fundraising online today!

Packed with tools to help you manage your fundraising efforts, raise more money and save time, **stjude.org/math** includes tools to help you:

+ Find your school
+ Create your own fundraising webpage and set your goal
+ Accept online donations
+ Integrate with Facebook Fundraising

Scan to find your school and sign up!

St. Jude Children's Research Hospital®

St. Jude Math-A-Thon

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