St. Jude MATH-A-THON

St. Jude patient
Kenadie

LEVEL 3
FUNBOOK

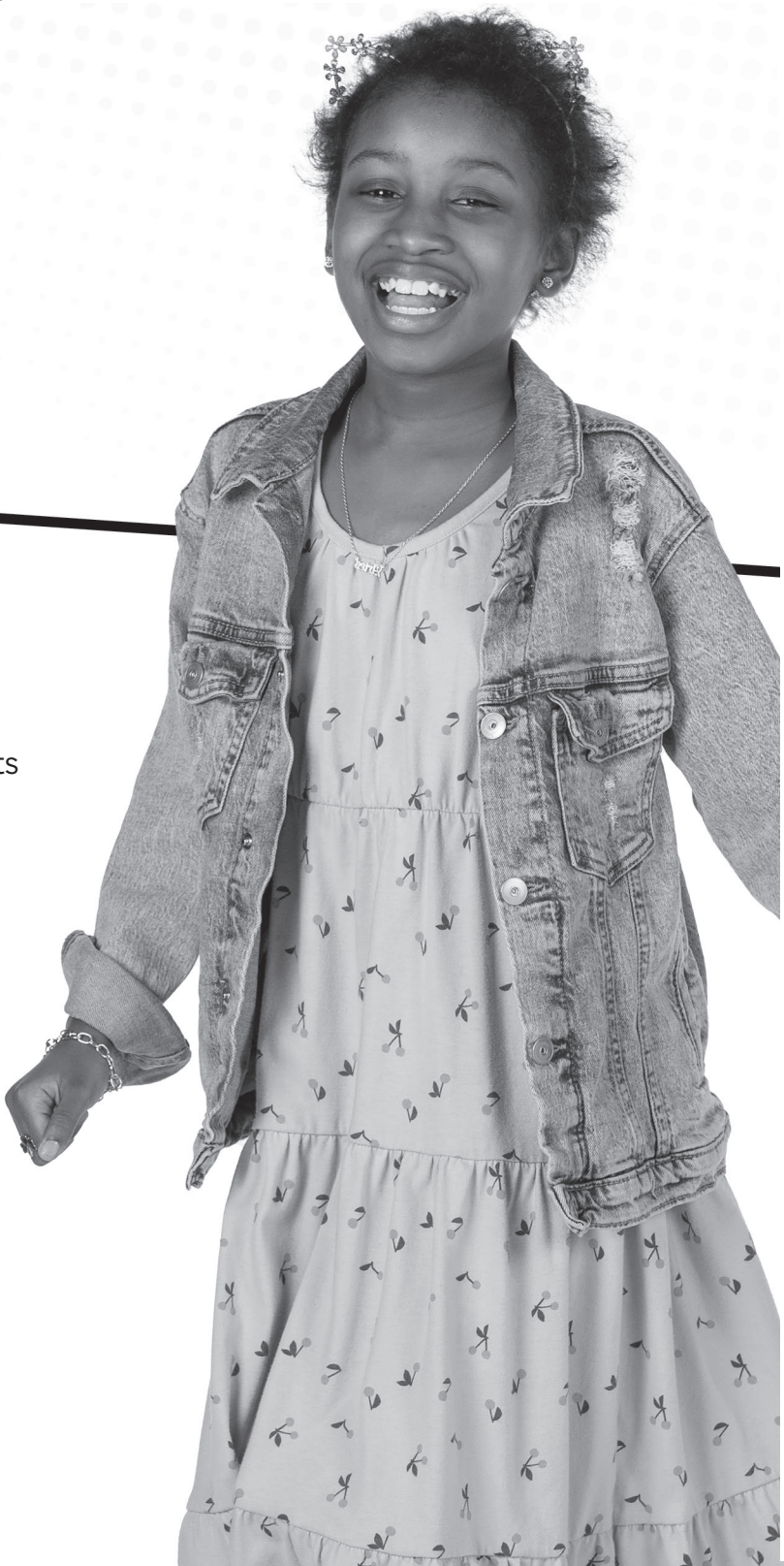
St. Jude Children's Research Hospital®

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 Kenadie

Kenadie, the youngest in her family, is full of personality. This bubbly girl loves arts and crafts and has "hundreds" of her painted canvases decorating the family home. She also enjoys math, reading and, as she cheerfully admits, bugging her mom.

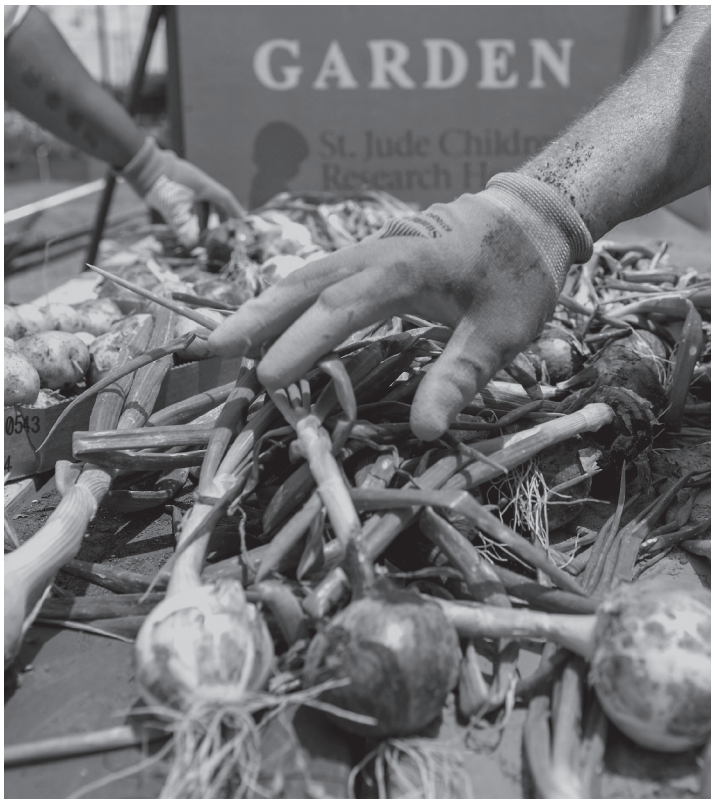
Kenadie was diagnosed with high-risk neuroblastoma in April 2022. There were two very large primary tumors in the area of her left kidney; one was a foot-and-a-half long. She was referred to St. Jude right away.

In addition to surgery to remove as much of the cancer as possible, Kenadie received chemotherapy, radiation therapy, antibody treatment and a stem cell transplant using her own cells.

Kenadie has completed treatment and returns to St. Jude for checkups.

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.



- St. Jude grows its own fresh fruits and vegetables so patients can eat delicious and nutritious food. Math is used every day in making sure each plant gets the right amount of water.
- Doctors use careful math to make sure each child gets the right amount of medicine each day.
- St. Jude is not a general children's hospital. We focus on providing high-quality care to children with cancer and other life-threatening diseases. The people who work at St. Jude use math to keep careful track of how many patients we have on campus and how many rooms we have available.

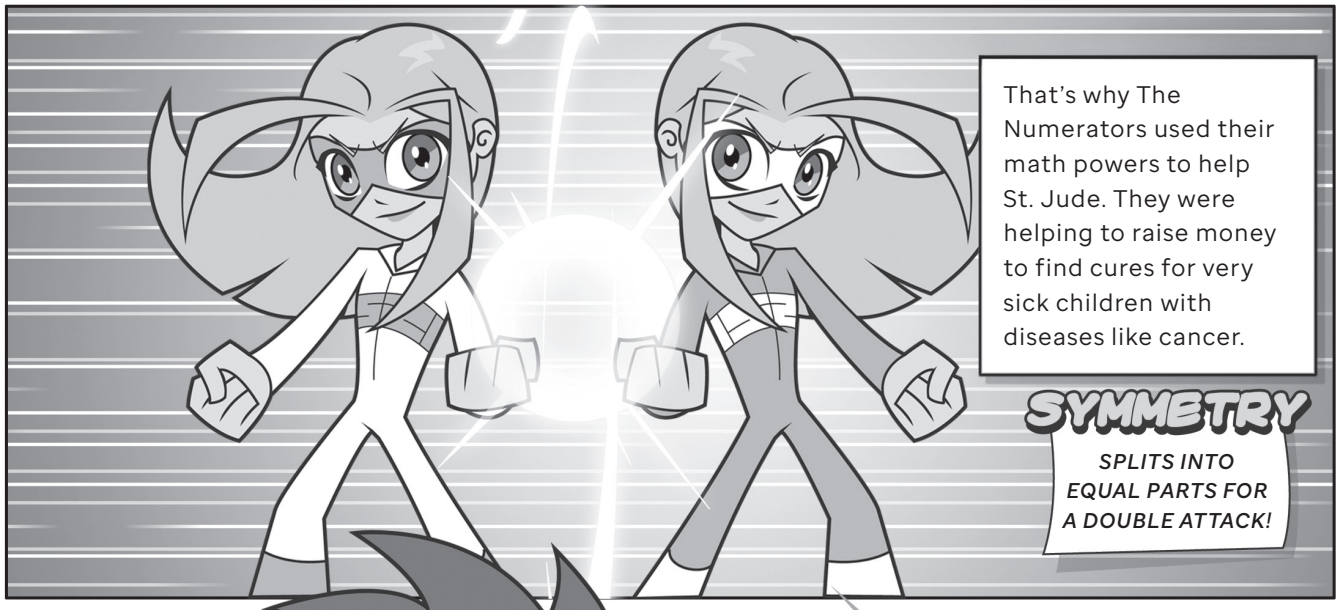
Ready to Sign Up?

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
Pablo José

MEET THE NUMERATORS

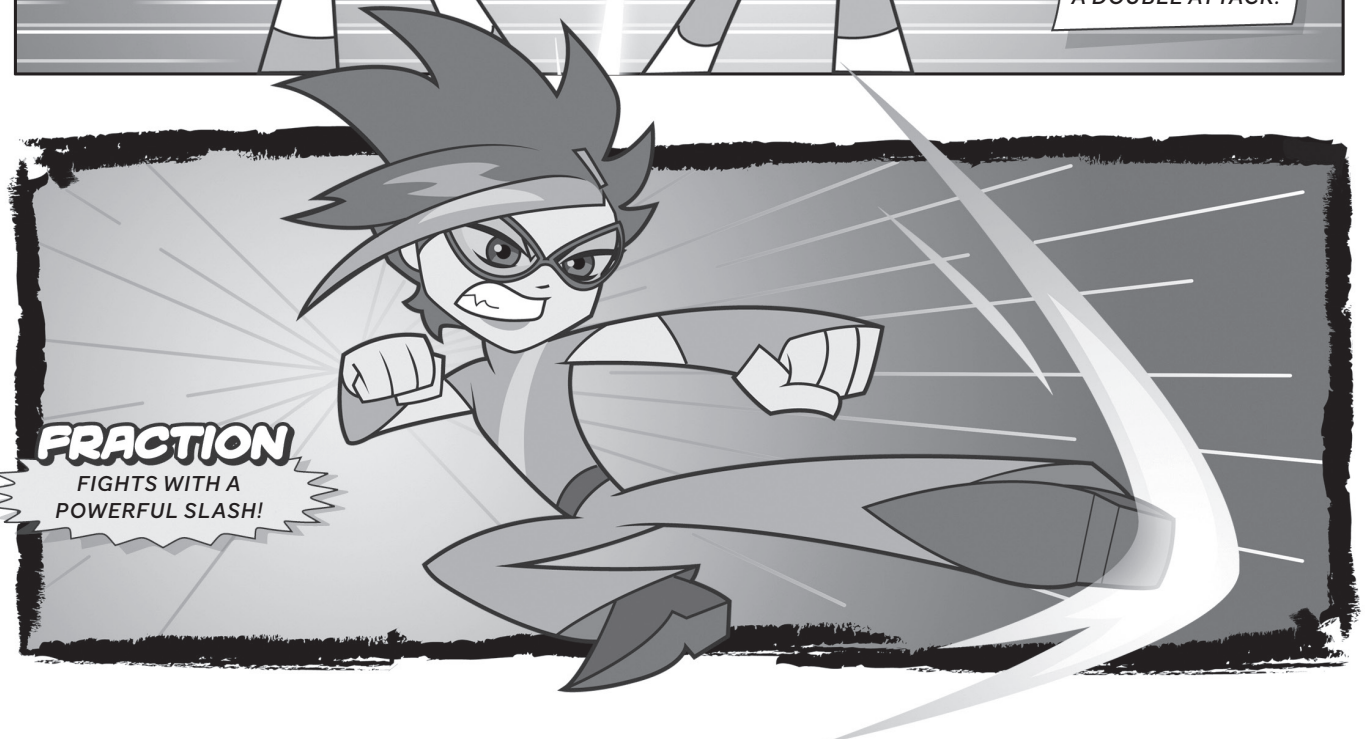
My name is Dr. Jax. Once there were four regular kids who studied math in school, just like you. I helped them turn their math skills into amazing superpowers. Now, these students call themselves The Numerators. They use their powers to protect other kids in danger.



That's why The Numerators used their math powers to help St. Jude. They were helping to raise money to find cures for very sick children with diseases like cancer.

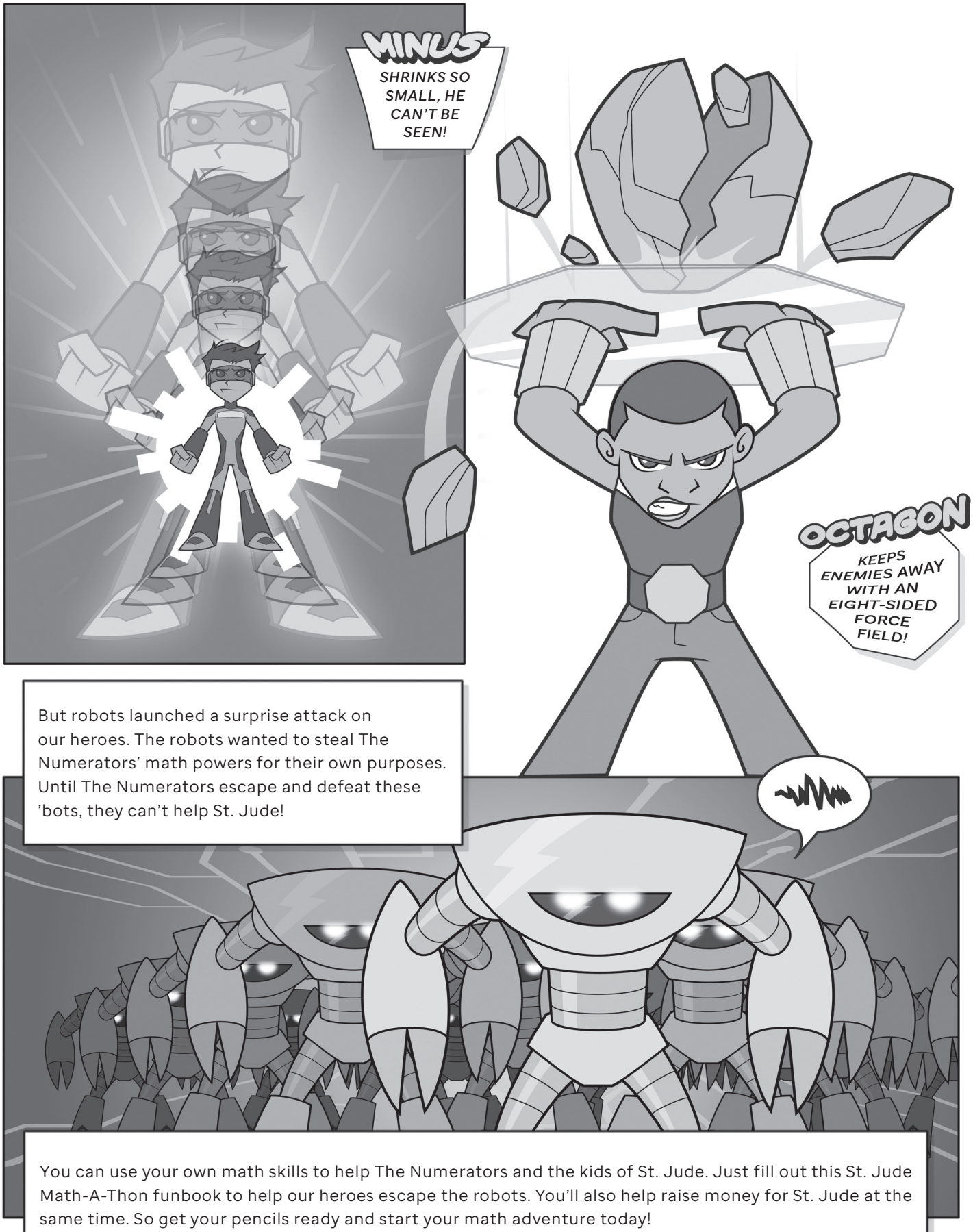
SYMMETRY

SPLITS INTO EQUAL PARTS FOR A DOUBLE ATTACK!



FRACTION

FIGHTS WITH A POWERFUL SLASH!

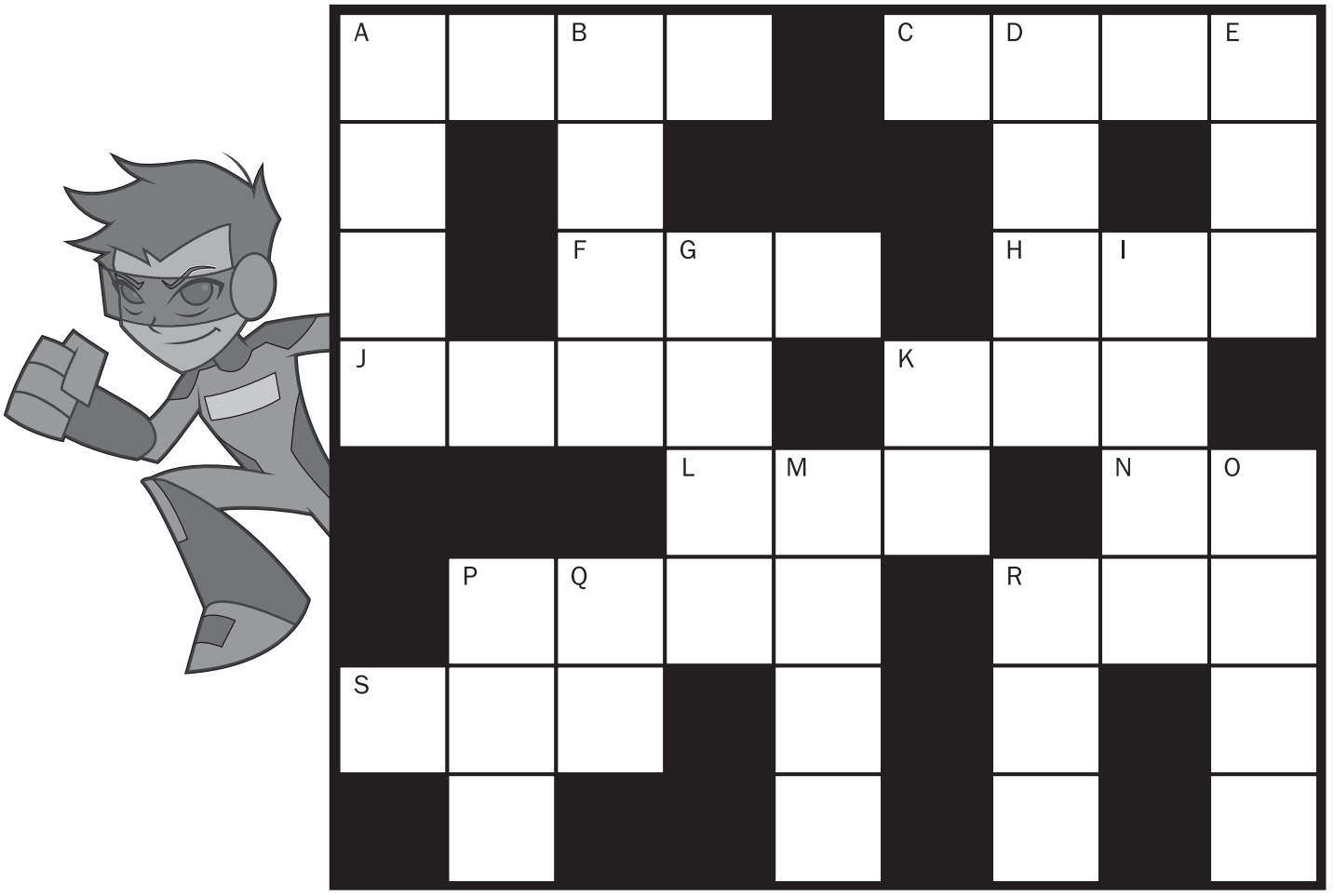


But robots launched a surprise attack on our heroes. The robots wanted to steal The Numerators' math powers for their own purposes. Until The Numerators escape and defeat these 'bots, they can't help St. Jude!

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!

Puzzle Power

Dr. Jax has set up a series of challenges to make sure The Numerators are ready to face the droids. Solve each equation and write your answers in the puzzle grid below. The Numerators are counting on you!



ACROSS

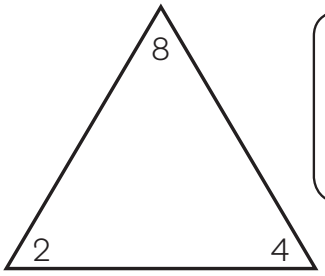
A. Three thousand, four hundred ninety-eight
C. 1 thousand, 2 hundreds, 6 tens, 7 ones
F. 10 more than 125
H. 400 + 50 + 6
J. Eight thousand, two hundred forty-one
K. 90 more than 804
L. 200 + 50 + 2
N. 30 more than 2
P. 4,000 + 200 + 30 + 7
R. 3 hundreds, 5 ones
S. 100 less than 1,003

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

Factor Force Field

The Numerators have detected droids approaching their hideout. To activate their protective force fields, they need to find the product of each factor pair. Write the product at the top of the triangle. Then use the triangle to help you write the factor family.



Start with the factors at the bottom of the triangle to write the multiplication sentences. Start with the product at the top of the triangle to write the division sentences. Remember to use all three numbers every time!

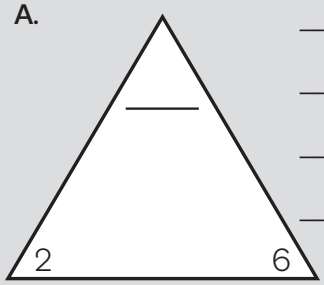
For this problem: 4 x 2 = 8.
The product is 8.

FACT FAMILY

4 x 2 = 8 2 x 4 = 8

8 ÷ 4 = 2 8 ÷ 2 = 4

A.



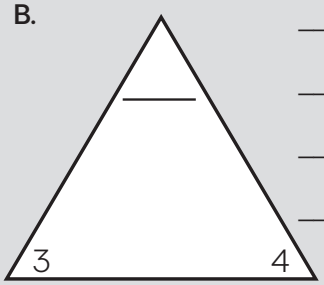
_____x_____=_____

_____x_____=_____

_____÷_____=_____

_____÷_____=_____

B.



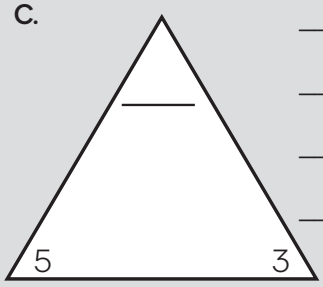
_____x_____=_____

_____x_____=_____

_____÷_____=_____

_____÷_____=_____

C.



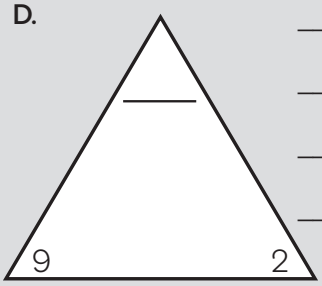
_____x_____=_____

_____x_____=_____

_____÷_____=_____

_____÷_____=_____

D.



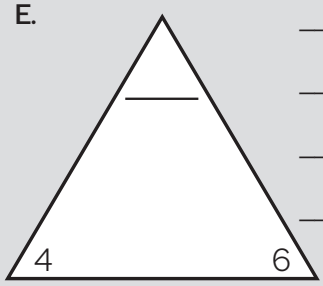
_____x_____=_____

_____x_____=_____

_____÷_____=_____

_____÷_____=_____

E.



_____x_____=_____

_____x_____=_____

_____÷_____=_____

_____÷_____=_____

Signal Surge

The Numerators are facing a new challenge! The droids have scrambled their communication signals. Help The Numerators by rounding each number to the underlined digit to restore their communication.

1. 5,4<u>0</u>8

_____

2. 18,<u>6</u>73

_____

3. 4<u>8</u>,672

_____

4. 3<u>9</u>0,672

_____

5. 89<u>0</u>,672

_____

6. 3,6<u>2</u>9

_____

7. 34,<u>9</u>01

_____

8. <u>9</u>34,876

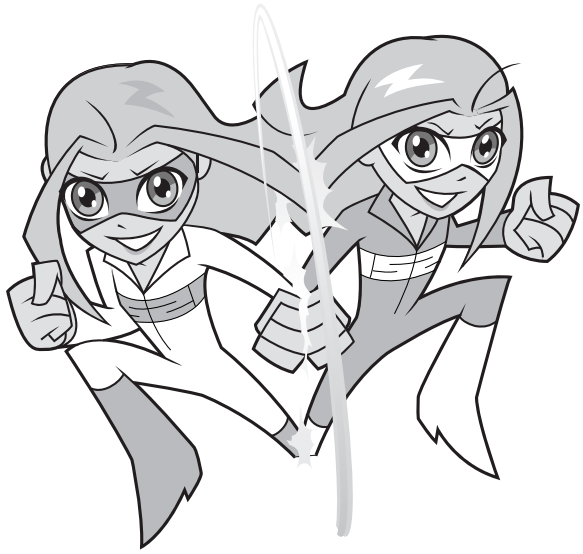
_____

Solve and Seek

The Numerators are planning a surprise attack on the droids, but they need to locate them first. Solve the following addition and subtraction problems to figure out where the droids are hiding. Arrange the letters correctly to find the answer.

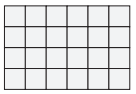
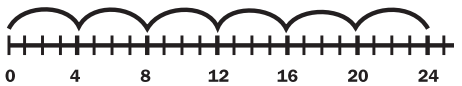
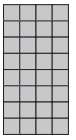
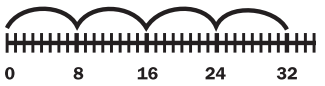
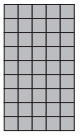
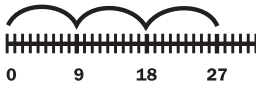
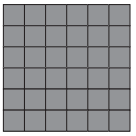
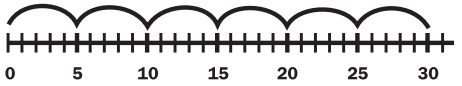
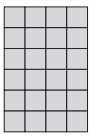
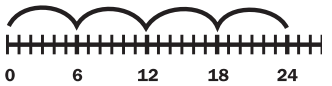
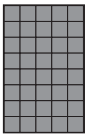
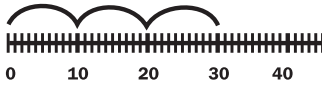
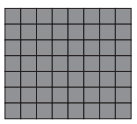
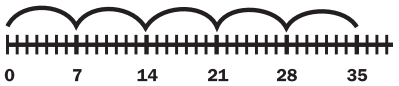
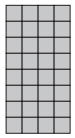
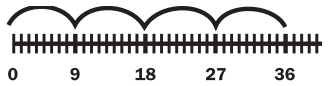
1.	489 + 1,307	**2.**	874 + 929	**3.**	1860 + 99	**4.**	1,609 + 203	**5.**	897 + 891
C		I		P		R		E	
6.	2,788 – 1,001	**7.**	2,037 – 173	**8.**	2,000 – 93	**9.**	2,416 – 571	**10.**	1,900 – 111
O		T		N		A		S	

1,803	1,907		1,789	1,959	1,845	1,796	1,788



Comparison Challenge

The droids have set up a series of traps to capture The Numerators. Compare the items below to find the one that doesn't fit. Then write the letter in the spaces at the bottom to find out what will deactivate the traps.

	Addition Equation	Array	Multiplication Equation	Number Line
1.	4 + 4 + 4 + 4 + 4 **T**	 **B**	6 x 4 **I**	 **C**
2.	8 + 8 + 8 + 8 **J**	 **E**	4 x 9 **A**	 **N**
3.	9 + 9 + 9 + 9 + 9 **D**	 **M**	5 x 9 **F**	 **L**
4.	5 + 5 + 5 + 5 + 5 + 5 **I**	 **K**	6 x 5 **L**	 **Y**
5.	6 + 6 + 6 + 6 **C**	 **F**	4 x 4 **H**	 **R**
6.	8 + 8 + 8 + 8 + 8 **K**	 **L**	5 x 8 **G**	 **M**
7.	7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 **P**	 **Q**	8 x 7 **K**	 **I**
8.	9 + 9 + 9 + 9 **A**	 **S**	4 x 9 **B**	 **E**

____	____	____	____		____	____	____	____	____	____
6	2	1	5		8	4	7	3	3	8

Droid Duel

The droids are planning to launch their final attack. The Numerators need to build different devices to defeat the droids once and for all. Help The Numerators figure out how many devices they can build.

The Numerators have a box of 24 energy cells. Here's what they need to build:

- Energy blasters: 6 energy cells each
- Hoverboards: 2 energy cells each
- Shield generators: 4 energy cells each

1. How many energy blasters can The Numerators build? _____

2. How many hoverboards can The Numerators build? _____

3. How many shield generators can The Numerators build? _____

4. Put the numbers of energy blasters, hoverboards and shield generators in order from least to greatest.

_____ _____ _____

5. Complete the sentence:
The Numerators can make the fewest

_____ because

_____

_____

_____

6. What are some ways The Numerators can build a mix of energy blasters, hoverboards and shield generators using a total of 24 energy cells? Show two ways in the chart below:

____ Energy blasters	____ Energy blasters
____ Hoverboards	____ Hoverboards
____ Shield generators	____ Shield generators

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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 patient
Adalyn

LEVEL 3
FUNBOOK

St. Jude Children's Research Hospital®

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