St. Jude MATH-A-THON

St. Jude patient
Hunter

LEVEL 5
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 Hunter

Hunter was diagnosed with osteosarcoma, a type of bone cancer, in June 2023. He was referred to St. Jude right away. "The moment we stepped foot in St. Jude, every need Hunter had was addressed with compassion and understanding," said Hunter's mom.

The cancer had spread from Hunter's right tibia and fibula into the surrounding soft tissue. It was determined that the leg could not be saved, and he underwent amputation. Hunter has also received chemotherapy and proton therapy at St. Jude, and his parents are proud of the determination he has shown in fighting through pain and discomfort. "Hunter has no quit in him," said his dad. "Whether it's a math test or cancer, it doesn't matter, he gives it his all, and that's really hard to find nowadays."

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.

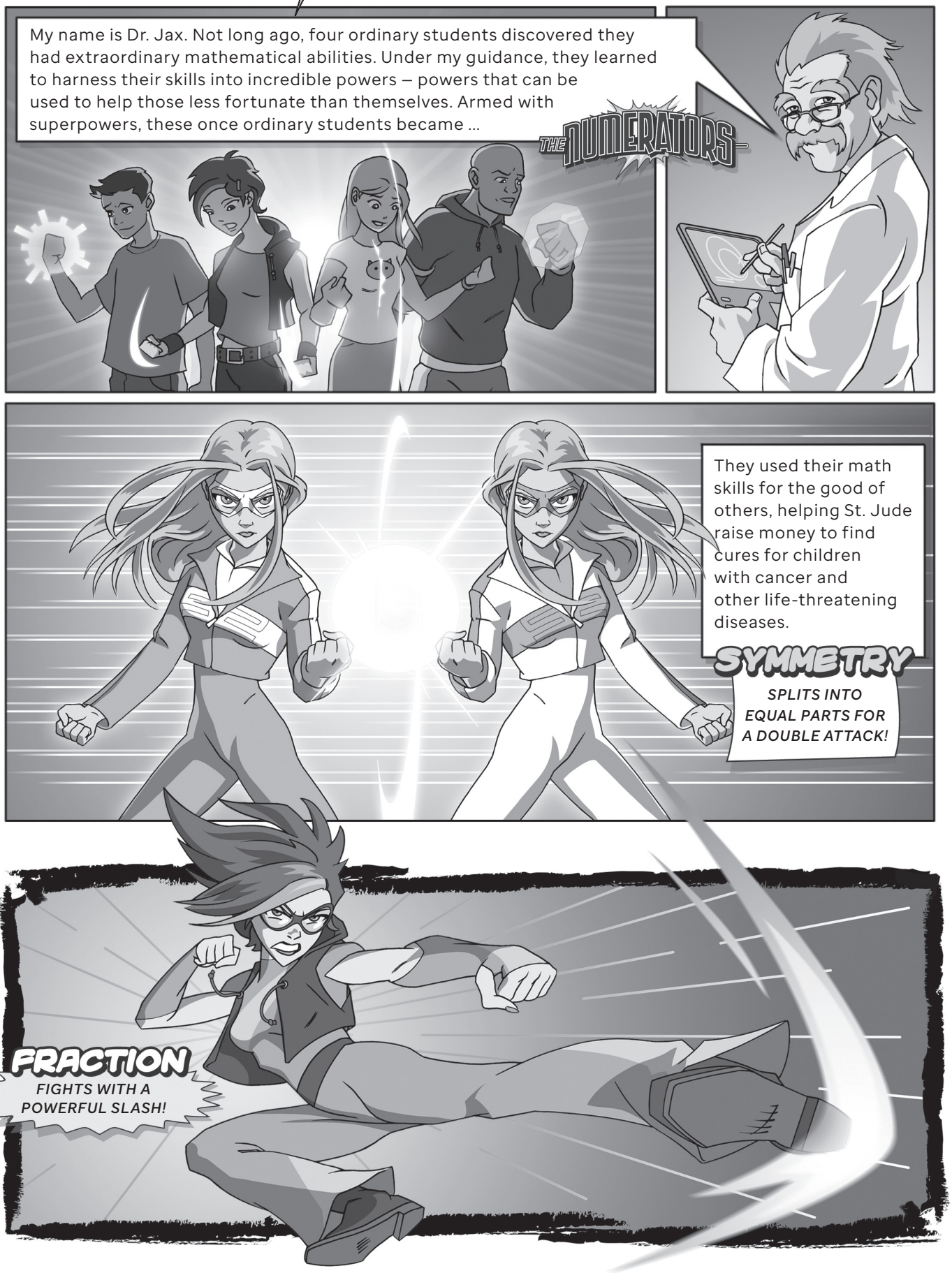
- The St. Jude campus is always expanding to further our scientific research and create more cures. Math plays an important role in our fundraising efforts.
- Did you know treatment can cost on average $450,000 for a family to fight childhood cancer? Your Math-A-Thon fundraising efforts transform that big number into zero! Families never receive a bill from St. Jude for treatment, travel, housing or food – so they can focus on helping their child live.
- Scientists at St. Jude research facilities use math to plan their experiments and figure out how many samples they need. They also use math to look at the data they collect, find patterns and understand how well treatments work. This helps them make sure their results are accurate and useful.

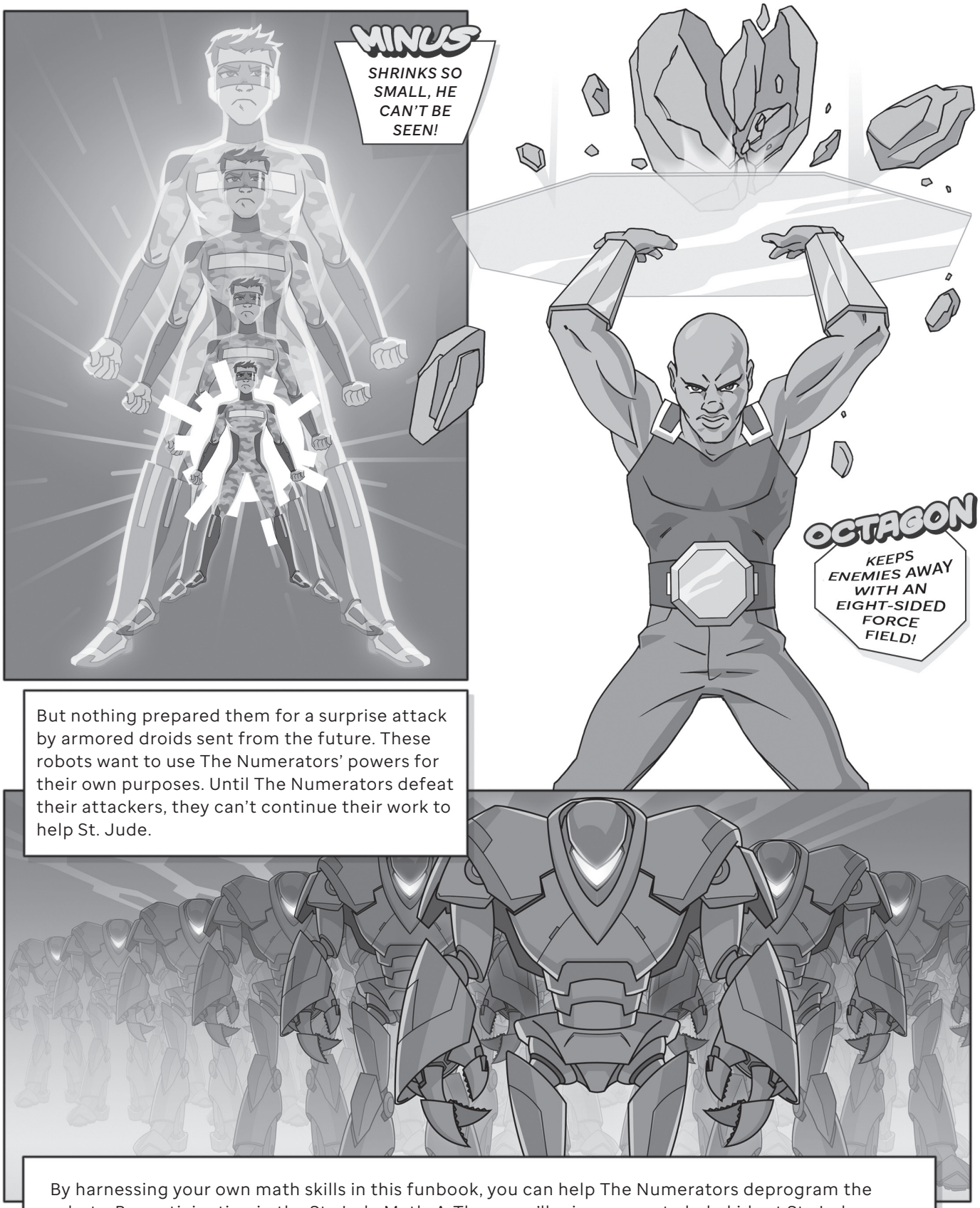
Ready to Sign Up?

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
Mondreas

MEET THE NUMERATORS





But nothing prepared them for a surprise attack by armored droids sent from the future. These robots want to use The Numerators' powers for their own purposes. Until The Numerators defeat their attackers, they can't continue their work to help St. Jude.

By harnessing your own math skills in this funbook, you can help The Numerators deprogram the robots. By participating in the St. Jude Math-A-Thon, you'll raise money to help kids at St. Jude. Just like The Numerators, you can use math to help fund research and find cures for kids. Help The Numerators while helping St. Jude, and begin your own adventure today!

Interstellar Search

Dr. Jax has found that the droids are hiding on different planets. The Numerators must use their telescopes to scan each surface. Choose a number from the telescope lens to fill in each blank so that the result matches the answer shown. You must use all the numbers in each lense and may not use a number more than once. Note: Multiple ways of solving the problems are possible.

A.

_____ + _____ x _____ + _____ = 24

B.

_____ ÷ _____ x _____ – _____ = 20

C.

(_____ + _____) – _____ x _____ = 4

D.

_____ x _____ + _____ x _____ = 27

E.

_____ – _____ x _____ ÷ _____ = 0

F.

(_____ + _____) x _____ ÷ _____ = 20

G.

_____ ÷ _____ x (_____ + _____) = 30

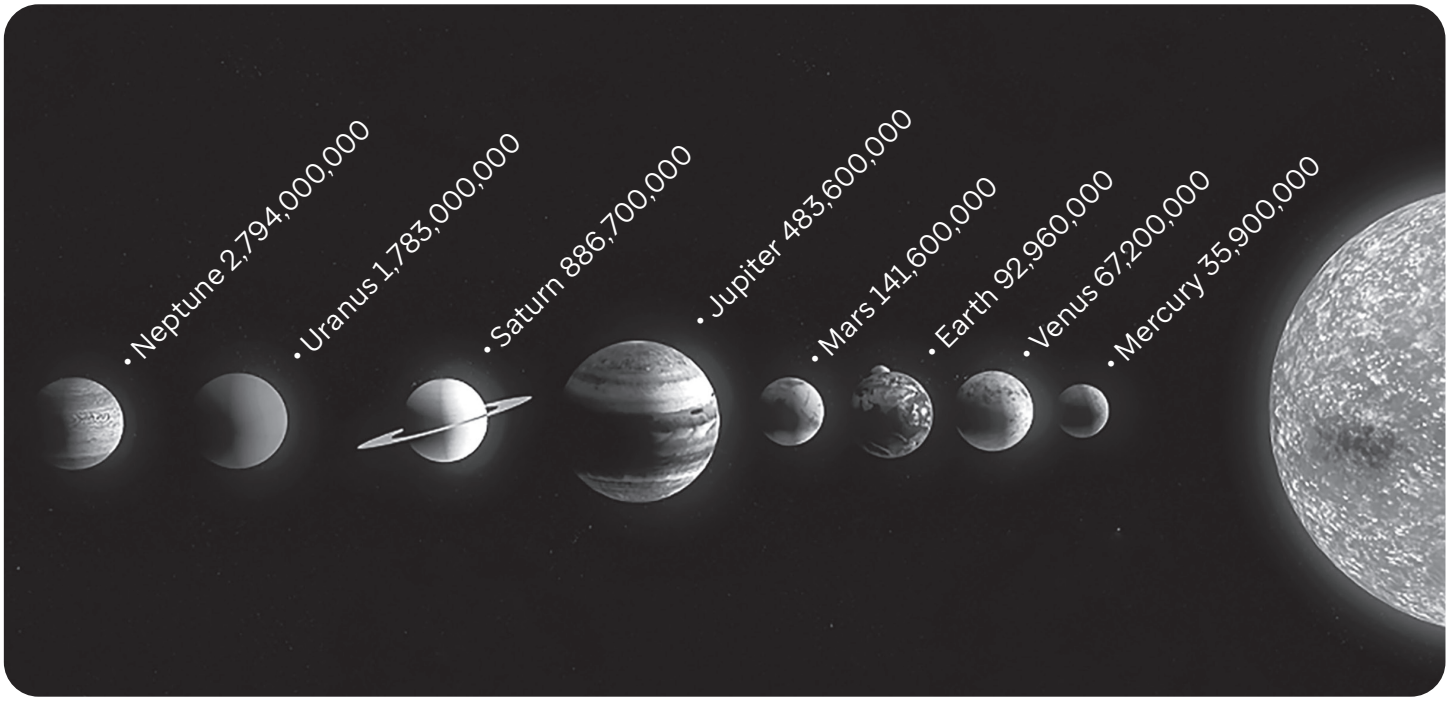
H.

(_____ – _____) x (_____ ÷ _____) = 16

Planetary Pursuit

The Numerators need to travel to each planet to confront the droids. The planets' distances from the sun are listed below, but The Numerators need your help converting each number name into standard form. Write the standard form in the first blank. Then look at the chart to see how "far out" each planet is and write the matching planet's name next to the correct answer.

1. Thirty-five million, nine hundred thousand miles	**1.** _____	_____
2. Eight hundred eighty-six million, seven hundred thousand miles	**2.** _____	_____
3. Ninety-two million, nine hundred sixty thousand miles	**3.** _____	_____
4. Two billion, seven hundred ninety-four million miles	**4.** _____	_____
5. Four hundred eighty-three million, six hundred thousand miles	**5.** _____	_____
6. Sixty-seven million, two hundred thousand miles	**6.** _____	_____
7. One billion, seven hundred eighty-three million miles	**7.** _____	_____
8. One hundred forty-one million, six hundred thousand miles	**8.** _____	_____



Crack the Code

The Numerators have discovered that the droids are planning to launch an attack. The attack plan is hidden within a series of equations. Solve the equations to uncover the plan and help The Numerators stop the droids. To decode the answer, work each problem and find your answer in the code. Each time the answer appears in the code, write the letter of that problem above it.

Y = (9 x 7) – (4 x 5) = ⬭

B = (7 x 8) – (4 x 6) = ⬭

I = (9 x 9) – (5 x 6) = ⬭

W = (9 x 5) – (8 x 2) = ⬭

E = (6 x 7) – (5 x 5) = ⬭

D = (8 x 9) – (4 x 7) = ⬭

A = (7 x 9) – (7 x 7) = ⬭

T = (8 x 8) – (6 x 6) = ⬭

R = (9 x 7) – (7 x 6) = ⬭

L = (6 x 9) – (3 x 4) = ⬭

P = (6 x 8) – (8 x 3) = ⬭

O = (9 x 8) – (3 x 3) = ⬭

G = (8 x 4) – (5 x 2) = ⬭

S = (8 x 7) – (6 x 3) = ⬭

_____	_____	_____	_____	_____	_____	_____	_____
38	14	32	63	28	14	22	17

_____	_____	_____	_____	_____	_____	_____	_____	_____
24	63	29	17	21	22	21	51	44

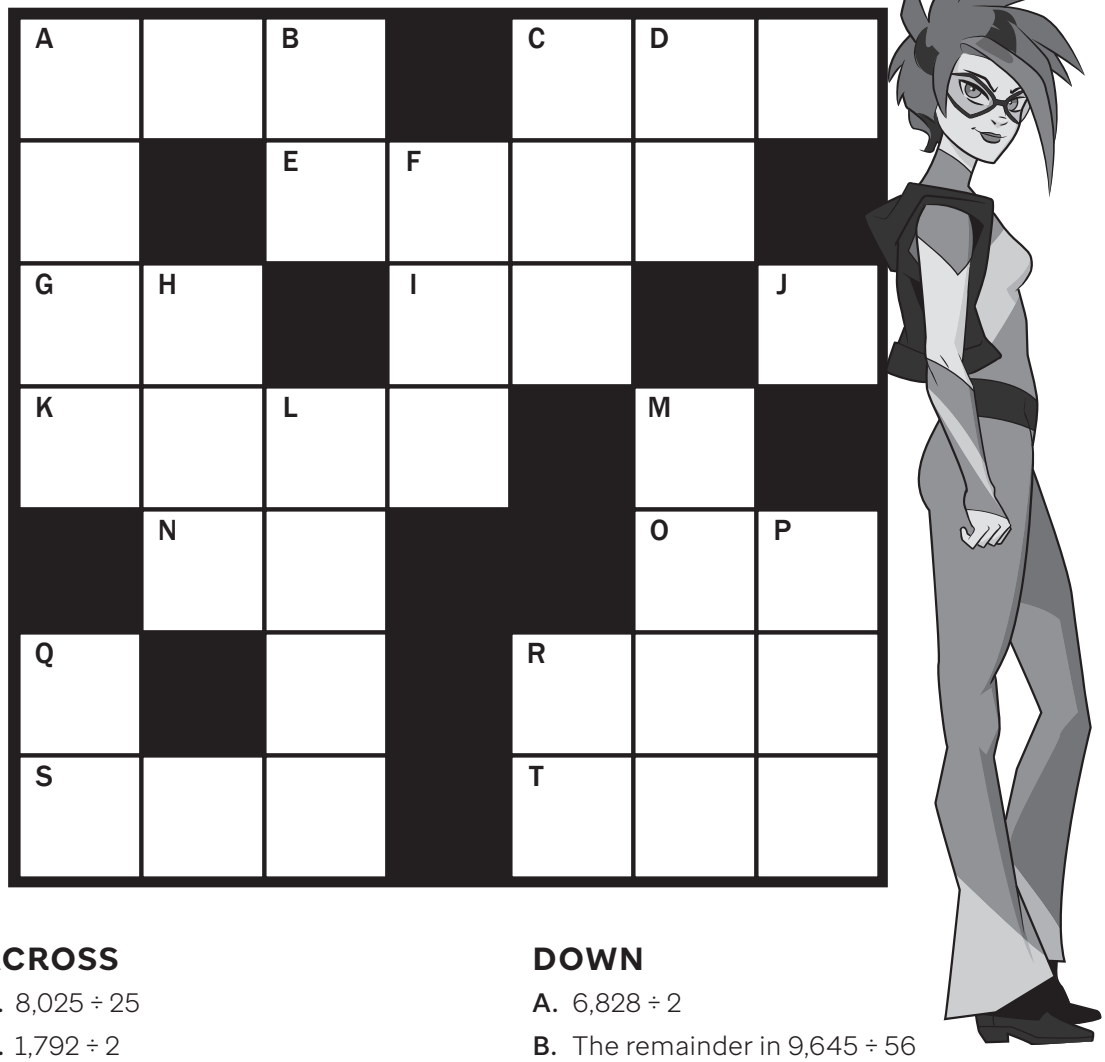
Power Grid Crisis

The Numerators have discovered that the droids are planning to attack the power grid, causing widespread disruptions. Help The Numerators solve the equations to deprogram the droids and restore order. Your math skills are crucial in this mission.

1. 97 x 5 _____	**2.** 147 x 9 _____	**3.** 60 x 11 _____
4. 294 x 15 _____	**5.** 189 x 14 _____	**6.** 82 x 16 _____
7. 4,409 x 2 _____	**8.** 689 x 16 _____	**9.** 36 x 15 _____
10. 1,276 x 3 _____	**11.** 89 x 3 _____	**12.** 431 x 10 _____
13. 65 x 4 _____	**14.** 2,972 x 4 _____	**15.** 93 x 22 _____

Puzzle Lockdown

Dr. Jax has discovered that the droids' control panel is locked with a numerical crossword puzzle. The Numerators need your help to solve the equations and input the numbers into the puzzle.



ACROSS

A. 8,025 ÷ 25
C. 1,792 ÷ 2
E. 16,385 ÷ 5
G. 696 ÷ 58
I. 1,653 ÷ 87
J. The remainder in 52 ÷ 12
K. 49,428 ÷ 12
N. 2,226 ÷ 42
O. 282 ÷ 3
Q. The remainder in 3,821 ÷ 72
R. 3,320 ÷ 10
S. 23,616 ÷ 32
T. 32,886 ÷ 81

DOWN

A. 6,828 ÷ 2
B. The remainder in 9,645 ÷ 56
C. 1,758 ÷ 2
D. 8,148 ÷ 84
F. 10,293 ÷ 47
H. 1,075 ÷ 5
L. 10,944 ÷ 8
M. 15,720 ÷ 4
P. 17,040 ÷ 40
Q. 1,881 ÷ 33
R. The remainder in 1,618 ÷ 36

Mission Decryption

Dr. Jax has discovered that the droids are using a complex code to plan their final attack. The Numerators must solve the equations to uncover when the droids will attack next. Each correct answer reveals a clue. Help The Numerators by solving the equations and stopping the droids for good.

Estimated Quotient			
1. 6 ***M***	27 ÷ 5 = ***5.4*** B	316 ÷ 58 = ***5.448*** C	426 ÷ 68 = ***6.265*** (M)
2. 3	24 ÷ 8 = _____ I	479 ÷ 59 = _____ A	6,432 ÷ 801 = _____ O
3. 10	90 ÷ 9 = _____ D	642 ÷ 71 = _____ G	8,080 ÷ 892 = _____ P
4. 120	850 ÷ 12 = _____ M	6,800 ÷ 97 = _____ O	1,626 ÷ 14 = _____ N
5. 60	198 ÷ 5 = _____ P	269 ÷ 7 = _____ R	501 ÷ 8 = _____ I
6. 50	3,000 ÷ 59 = _____ G	432 ÷ 7 = _____ B	5,427 ÷ 91 = _____ C
7. 10	61 ÷ 3 = _____ T	192 ÷ 17 = _____ H	6,042 ÷ 297 = _____ V
8. 60	1,234 ÷ 19 = _____ T	555 ÷ 7 = _____ S	4,912 ÷ 61 = _____ R

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

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 patient
Kenadie

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