LEVEL 3
FUNBOOK

There's
Power
In Numbers

stjude.org/math

St. Jude patient
Bridget

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 Bridget

When Bridget's family learned she had cancer, they brought her to St. Jude. She was scared at first, but her doctors and nurses were kind and funny, and they helped her get better. Bridget has a brand new service dog to help her get around. He'll even get to go to school with her.
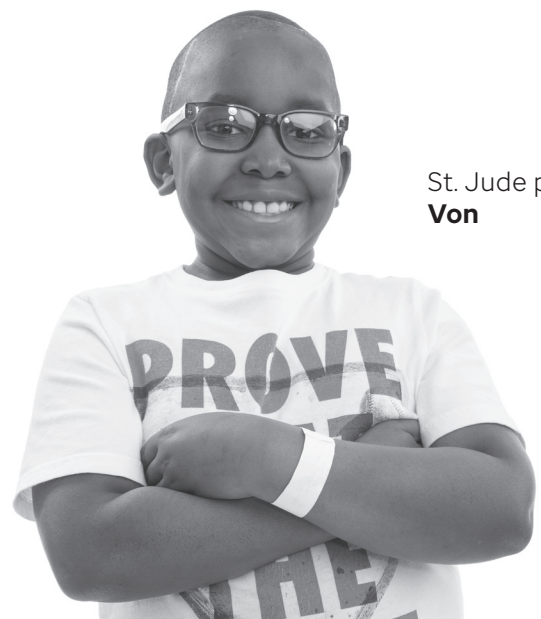
St. Jude patient
Bridget

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
Von

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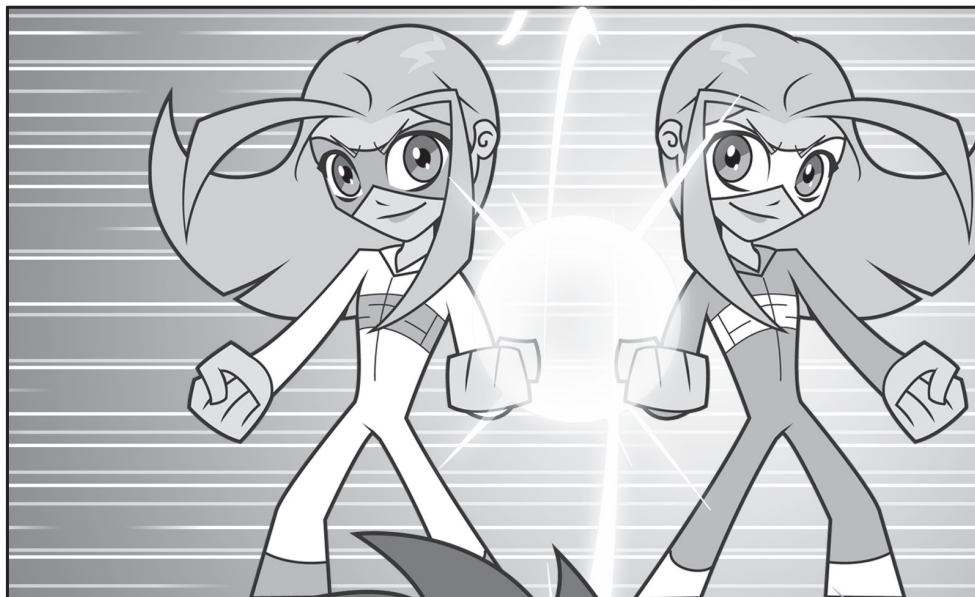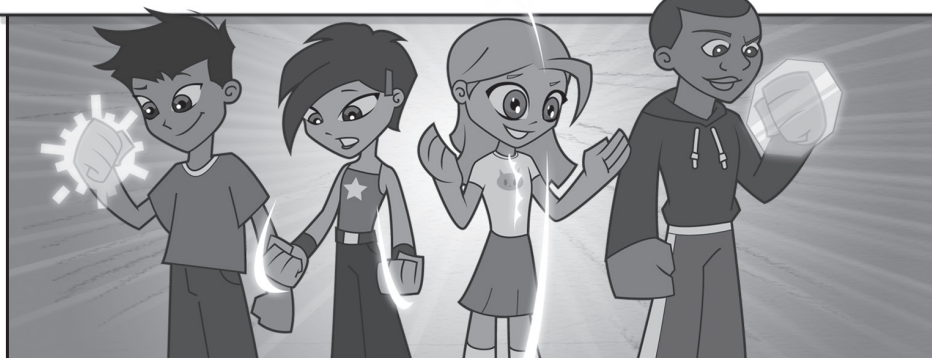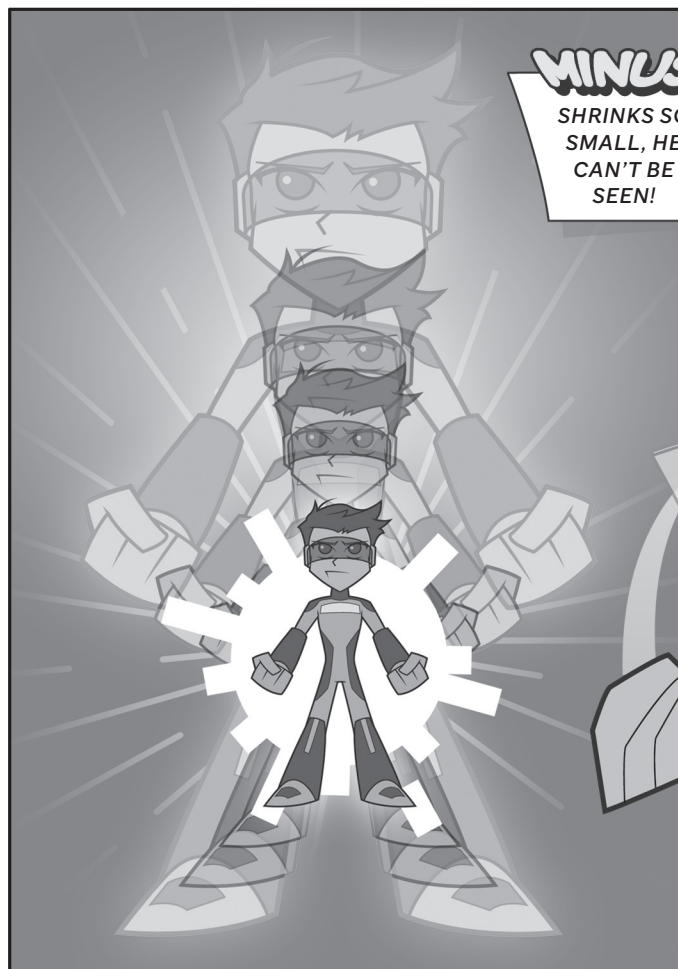
That's why The Numerators used their math powers to help St. Jude Children's Research Hospital®. They were helping to raise money to find cures for very sick children with diseases like cancer.

SYMMETRY
SPLITS INTO EQUAL PARTS FOR A DOUBLE ATTACK!
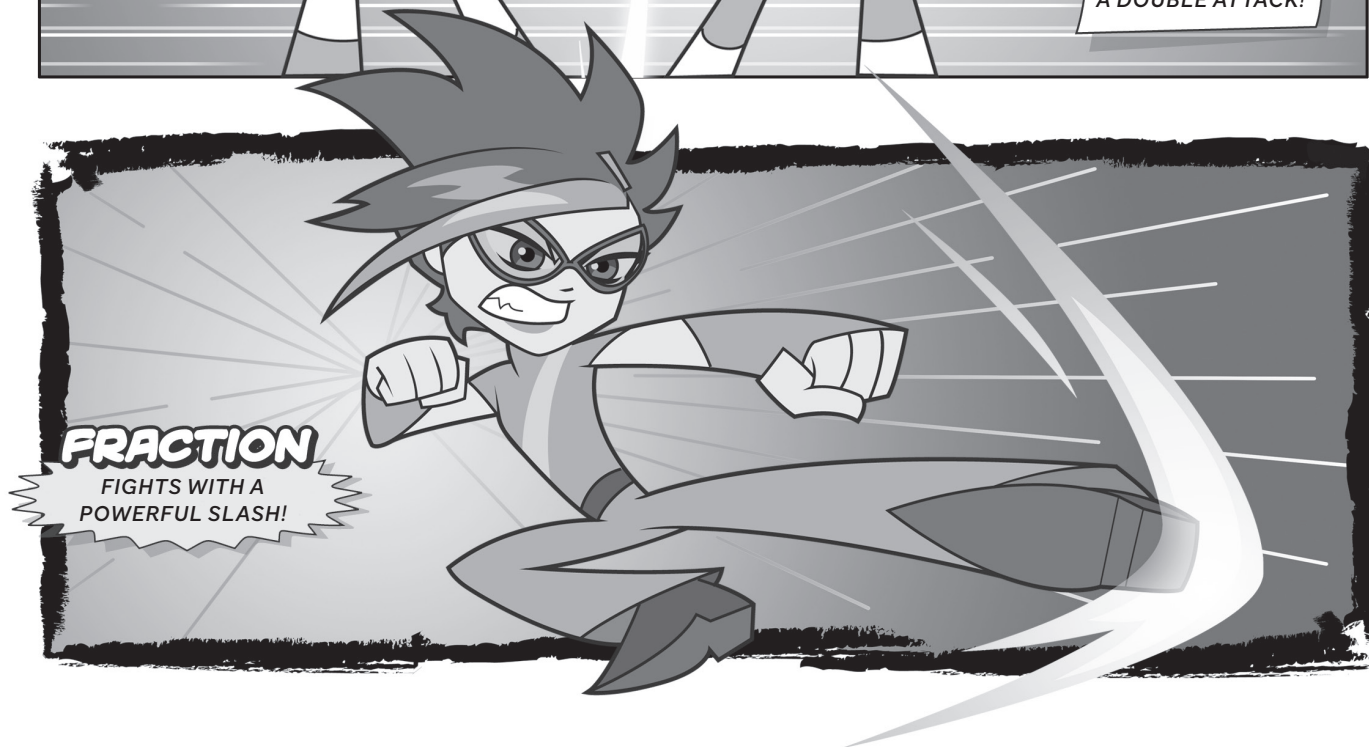
FRACTION
FIGHTS WITH A POWERFUL SLASH!

MINUS

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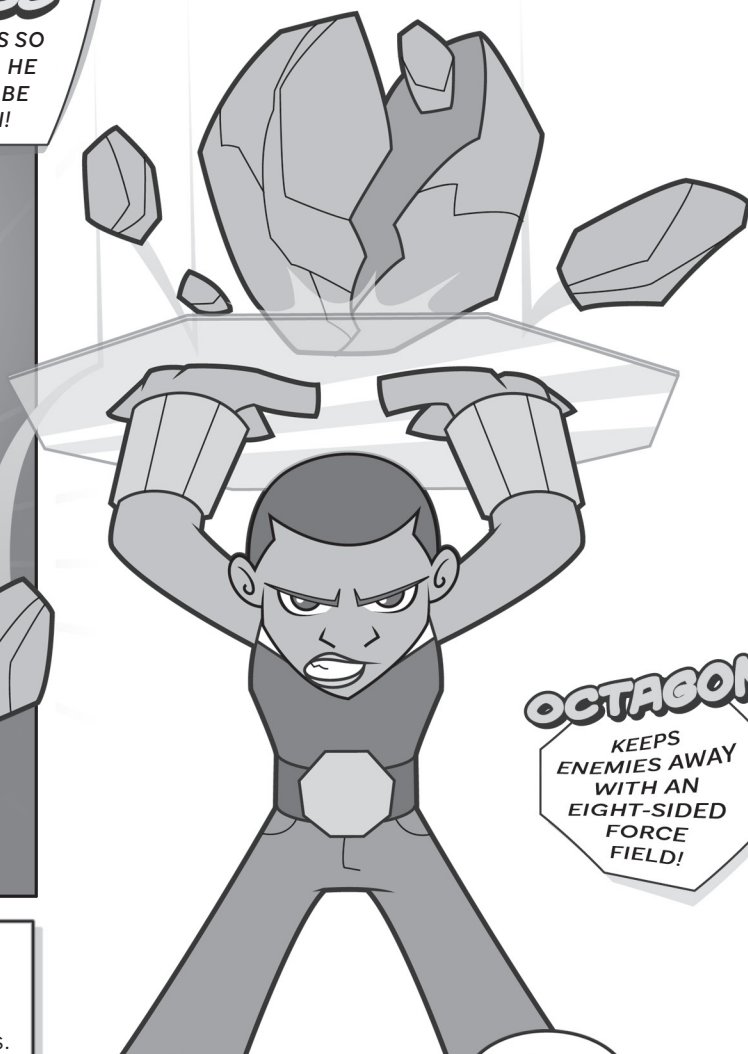
OCTAGON

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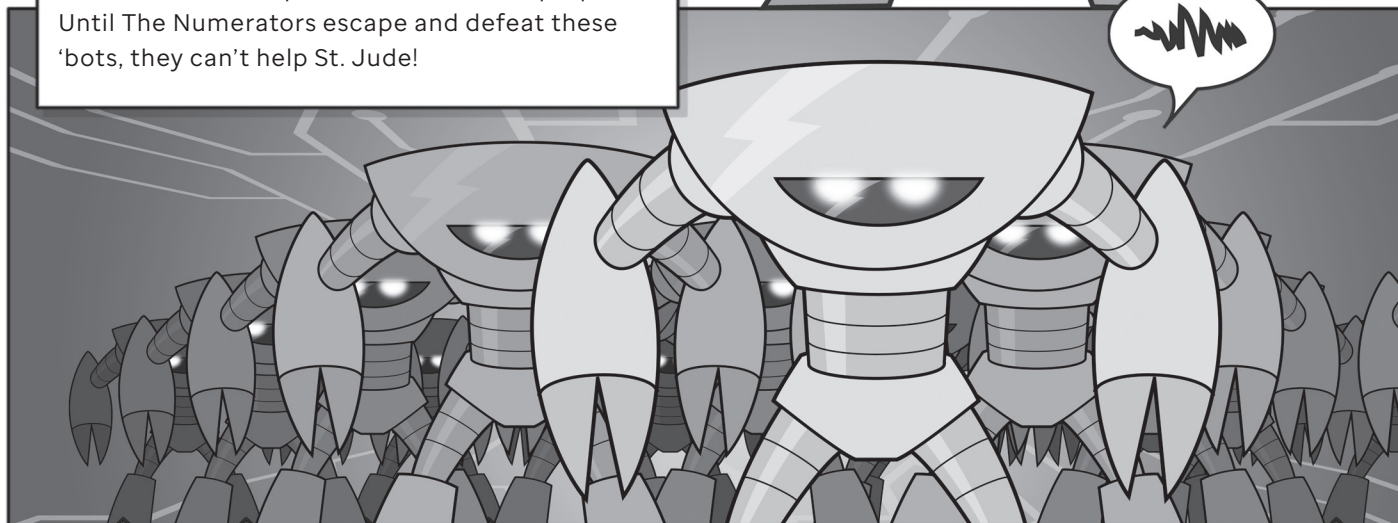
You can use your own math skills to help The Numerators and the kids of St. Jude. Just fill out this St. Jude Math-A-Thon Funbook to help our heroes escape the robots. You'll also help raise money for St. Jude at the same time. So get your pencils ready and start your math adventure today!

States and Dates

Add or subtract. The answer tells you the year that a state became part of the U.S.A. Find the year on the map and write the state's name in the blank. Delaware became a state first. Which became the 50th state?

1. 489
  + 1,307
  _____

2. 874
  + 929
  _____

3. 2,000
  − 93
  _____

4. 1,900
  − 111
  _____

5. 1,609
  + 203
  _____

6. 2,788
  − 1,001
  1,787

  Delaware (DE)
  1st

7. 909
  + 909
  _____

8. 897
  + 891
  _____

9. 1,094
  + 767
  _____

10. 1,860
  + 99
  _____
  50th

11. 2,037
  − 173
  _____

12. 2,416
  − 571
  _____

13. 1,038
  + 799
  _____

14. 2,009
  − 159
  _____

NY: 1788
MI: 1837
NV: 1864
OH: 1803
IL: 1818
DE: 1787
CA: 1850
KS: 1861
OK: 1907
NC: 1789
TN: 1796
TX: 1845
LA: 1812
HI: 1959

Snake Charmer

Put the numbers in order from the lowest to the highest.

A. 500 179 626 324 880 967 276 539 402 197

B. 134 700 820 555 475 113 342 229 851 322 947

C. 603 291 157 843 517 344 540 124 736

D. 670 353 225 568 721 445 215 396
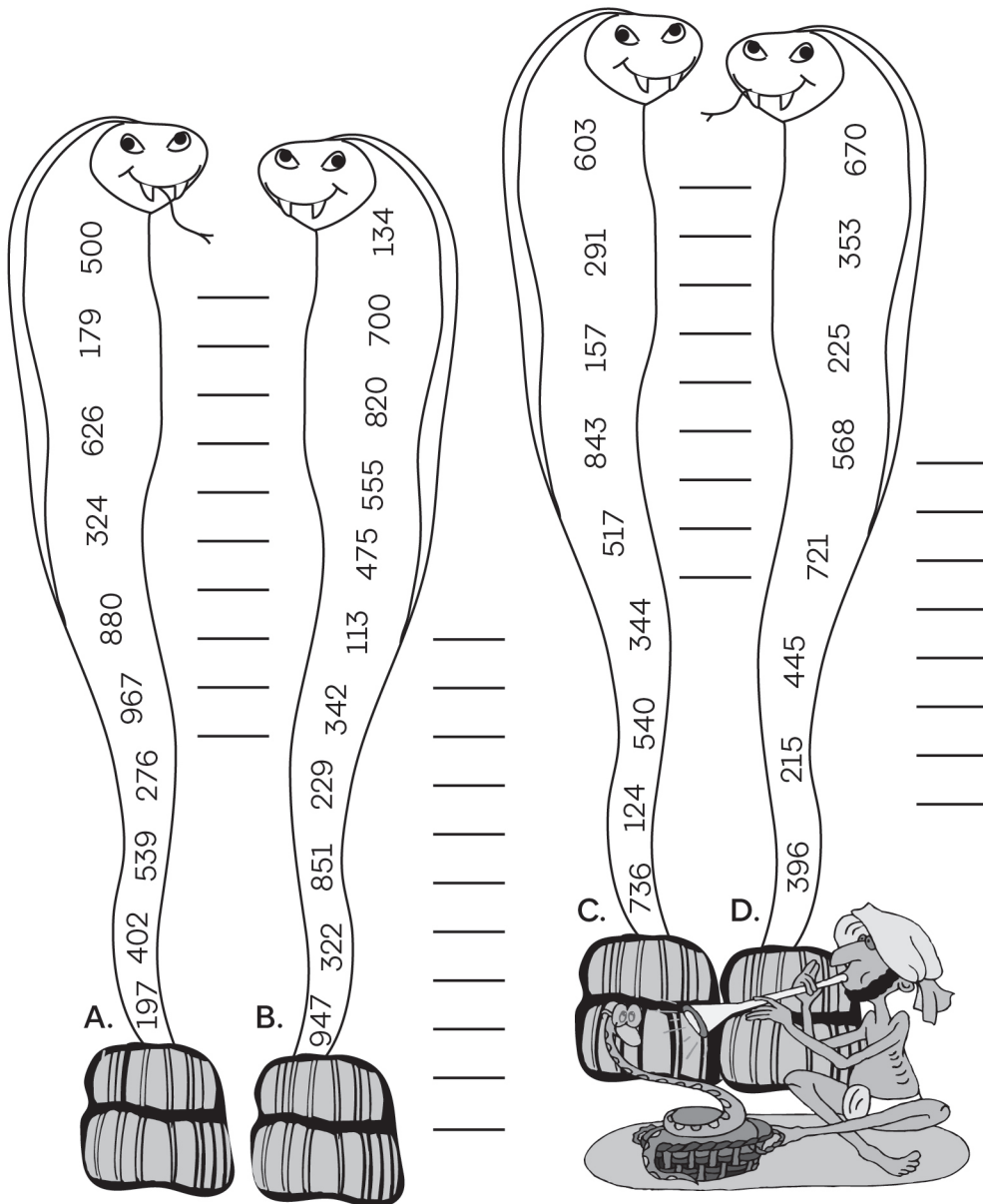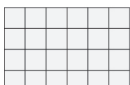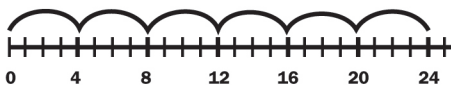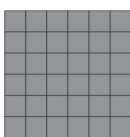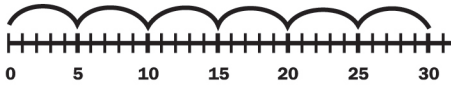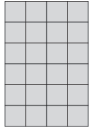
1. Which snake has the fewest sets of numbers? _____

2. Which snake has the most sets of numbers? _____

Bells Are Ringing

The instrument pictured at the bottom of the page is similar to the xylophone. Its name means "set of bells" in German. To learn the name of this great invention, write the letter beneath the representation in each row that does *not* belong.
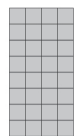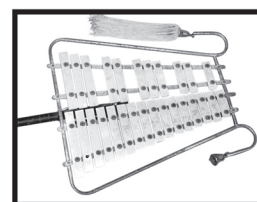
	Addition Equation	Array	Multiplication Equation	Number Line
1.	4 + 4 + 4 + 4 + 4 — G	H	6 x 4 — I	J
2.	8 + 8 + 8 + 8 — J	K	4 x 9 — L	M
3.	9 + 9 + 9 + 9 + 9 — L	M	5 x 9 — N	O
4.	5 + 5 + 5 + 5 + 5 + 5 — J	K	6 x 5 — L	M
5.	6 + 6 + 6 + 6 — C	D	4 x 4 — E	F
6.	8 + 8 + 8 + 8 + 8 — K	L	5 x 8 — M	N
7.	7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 — P	Q	8 x 7 — R	S
8.	9 + 9 + 9 + 9 — O	P	4 x 9 — Q	T

___ ___ ___ C ___ ___ ___ ___ ___ I ___ ___
1 2 3 4 5 6 7 8 5 2

Planes, Motorcycles and Cars

Devon makes model airplanes (6 wheels), motorcycles (2 wheels)
and cars (4 wheels). He buys a box of 24 wheels.

1. How many airplanes can Devon build? _____

2. How many cars can Devon build? _____

3. How many motorcycles can Devon build? _____

4. Put the numbers of airplanes, cars and motorcycles in order from least to greatest.

   _____ _____ _____

5. Complete the sentence. Devon can make the fewest _____ because

   _____

   _____

   _____

6. What are some ways Devon can build a mix of airplanes, cars and motorcycles using a total of 24 wheels?

   Show two ways in the chart below.

   _____ airplanes   _____ airplanes

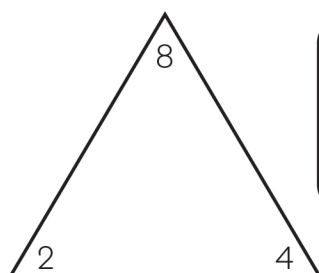   _____ cars   _____ cars

   _____ motorcycles   _____ motorcycles

   __24__ wheels in all   __24__ wheels in all

Fact Family Triangles

Find the product of each factor pair. Write it at the top of the triangle. Then use the triangle to help you write the fact family.

8 / 2 / 4

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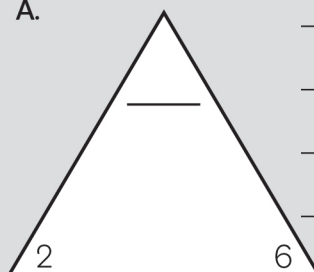
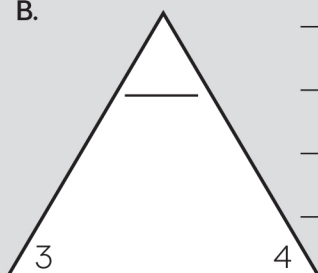For this problem: 4 x 2 = 8. The product is 8.

FACT FAMILY

4 x 2 = 8   2 x 4 = 8
8 ÷ 4 = 2   8 ÷ 2 = 4

A.

2 / 6

____ X ____ = ____
____ X ____ = ____
____ ÷ ____ = ____
____ ÷ ____ = ____

B.

3 / 4

____ X ____ = ____
____ X ____ = ____
____ ÷ ____ = ____
____ ÷ ____ = ____

C.

5 / 3

____ X ____ = ____
____ X ____ = ____
____ ÷ ____ = ____
____ ÷ ____ = ____

D.

9 / 2

____ X ____ = ____
____ X ____ = ____
____ ÷ ____ = ____
____ ÷ ____ = ____

E.

4 / 6

____ X ____ = ____
____ X ____ = ____
____ ÷ ____ = ____
____ ÷ ____ = ____
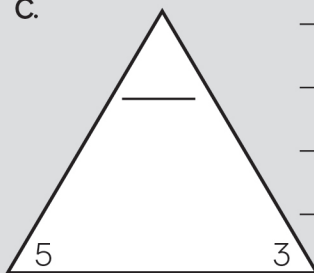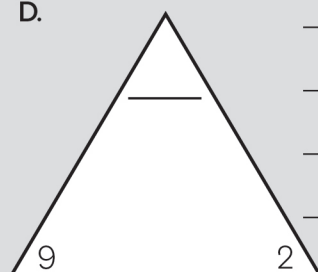
Number Puzzler

Use the clues below to complete the puzzle.
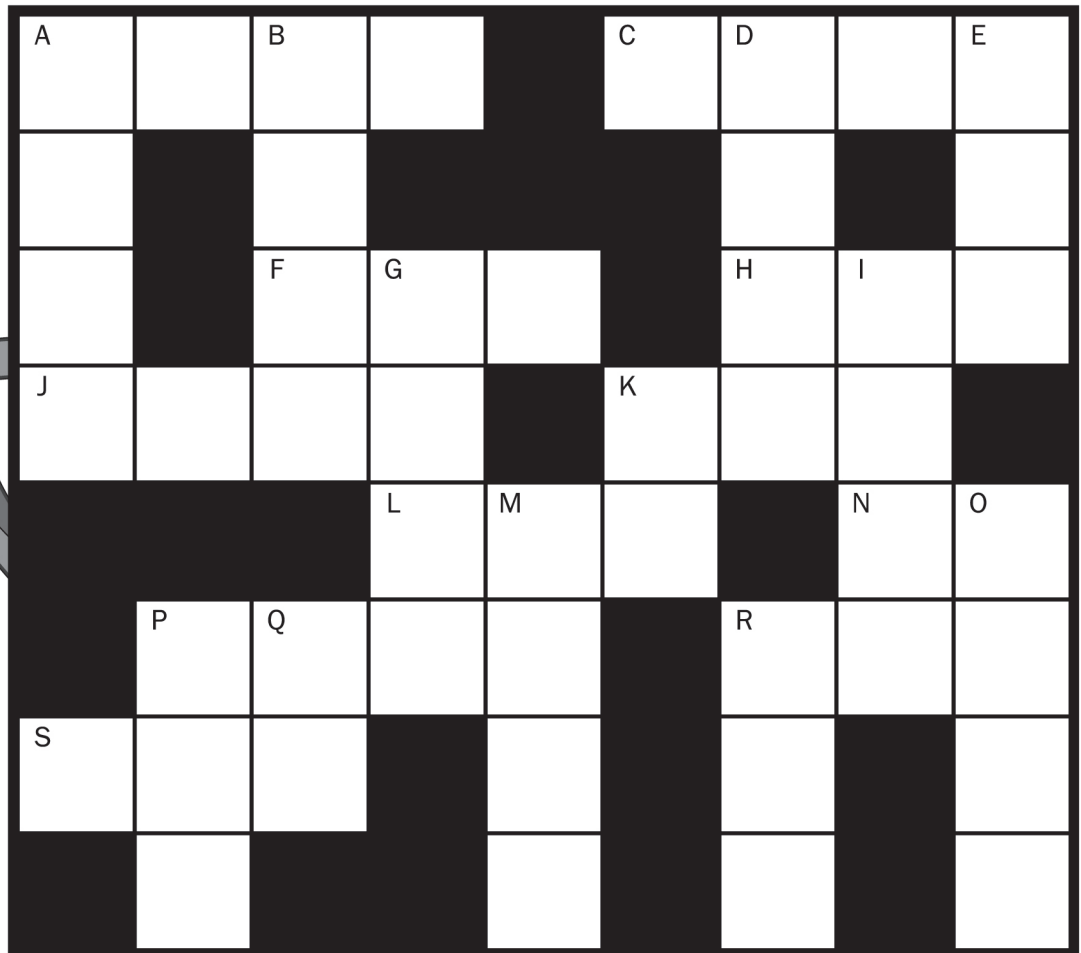
ACROSS

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

LEVEL 3
FUNBOOK

Answer Key

Page 5
States and Dates
1. 1,796; Tennessee (TN)
2. 1,803; Ohio (OH)
3. 1,907; Oklahoma (OK)
4. 1,789; North Carolina (NC)
5. 1,812; Louisiana (LA)
6. 1,787; Delaware (DE)
7. 1,818; Illinois (IL)
8. 1,788; New York (NY)
9. 1,861; Kansas (KS)
10. 1,959; Hawaii (50th state) (HI)
11. 1,864; Nevada (NV)
12. 1,845; Texas (TX)
13. 1,837; Michigan (MI)
14. 1,850; California (CA)

Page 6
Snake Charmer
A. 179, 197, 276, 324, 402, 500, 539, 626, 880, 967
B. 113, 134, 229, 322, 342, 475, 555, 700, 820, 851, 947
C. 124, 157, 291, 344, 5177, 540, 603, 736, 843
D. 215, 225, 353, 396, 445, 568, 670, 721
1. D; 8
2. B; 11

Page 7
Bells Are Ringing
1. G
2. L
3. O
4. K
5. E
6. N
7. S
8. P

G L O C K E N S P I E L

Page 8
Planes, Motorcycles and Cars
1. 4
2. 6
3. 12
4. 4 (airplanes), 6 (cars), 12 (motorcycles)
5. Devon can make the fewest airplanes because the airplanes require the greatest number of wheels.
6. Answers will vary. The total sum of the wheels must be 24.

Page 9
Fact Family Triangles
A. 2 x 6 = 12; 6 x 2 = 12; 12 ÷ 6 = 2; 12 ÷ 2 = 6
B. 3 x 4 = 12; 4 x 3 = 12; 12 ÷ 4 = 3; 12 ÷ 3 = 4
C. 5 x 3 = 15; 3 x 5 = 15; 15 ÷ 3 = 5; 15 ÷ 5 = 3
D. 9 x 2 = 18; 2 x 9 = 18; 18 ÷ 2 = 9; 18 ÷ 9 = 2
E. 6 x 4 = 24; 4 x 6 = 24; 24 ÷ 4 = 6; 24 ÷ 6 = 4

Page 10
Number Puzzler

St. Jude patient **Camila**

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!

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Math-A-Thon

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