

Doing Math. Saving Lives.

mathathon.org

LEVEL 3

FUNBOOK

St. Jude patient Lillian, age 8,
acute lymphoblastic leukemia



**St. Jude Children's
Research Hospital**

ALSAC • Danny Thomas, Founder
Finding cures. Saving children.

ST. JUDE
MATH-A-THON

Curriculum by:

 **SCHOLASTIC**

Welcome to The St. Jude Math-A-Thon®!



St. Jude patient Zachary, age 9,
acute lymphoblastic leukemia

The St. Jude Math-A-Thon is your chance to show what kids can do when they work together. Kids under the care of experts at St. Jude Children's Research Hospital® are battling childhood cancer and other life-threatening diseases, and you can help. St. Jude is leading the way the world understands, treats and defeats childhood cancer and other life-threatening diseases. 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.

Now you can help the kids of St. Jude!

- 1 Collect sponsors using the online fundraising tools at **mathathon.org**.
- 2 Complete the five math worksheets in this workbook.
- 3 Send in your money to your school!

Thank you and good luck!



Meet Lillian

age 8, Illinois, acute lymphoblastic leukemia

When Lillian got sick, her family brought her to St. Jude Children's Research Hospital® for her treatment and care. When Lillian is at St. Jude, she likes to make crafts with the volunteers who visit. Lillian celebrated her birthday at the hospital, but her doctors and nurses made sure it was special. They had confetti and a cake to help her celebrate.

More about Lillian:

Favorite color: Turquoise

Favorite school subject: Math

Favorite food: Steak or rice

Favorite hero: Wonder Woman

Favorite song: "Roar" by Katy Perry

Hobbies: Crafting and playing the Wii

When I grow up, I want to be a: Designer

I am thankful for: God, St. Jude and all my doctors making me feel better, living and my family

More about you:

Favorite color: _____

Favorite school subject: _____

Favorite food: _____

Favorite hero: _____

Favorite song: _____

Hobbies: _____

When I grow up, I want to be a: _____

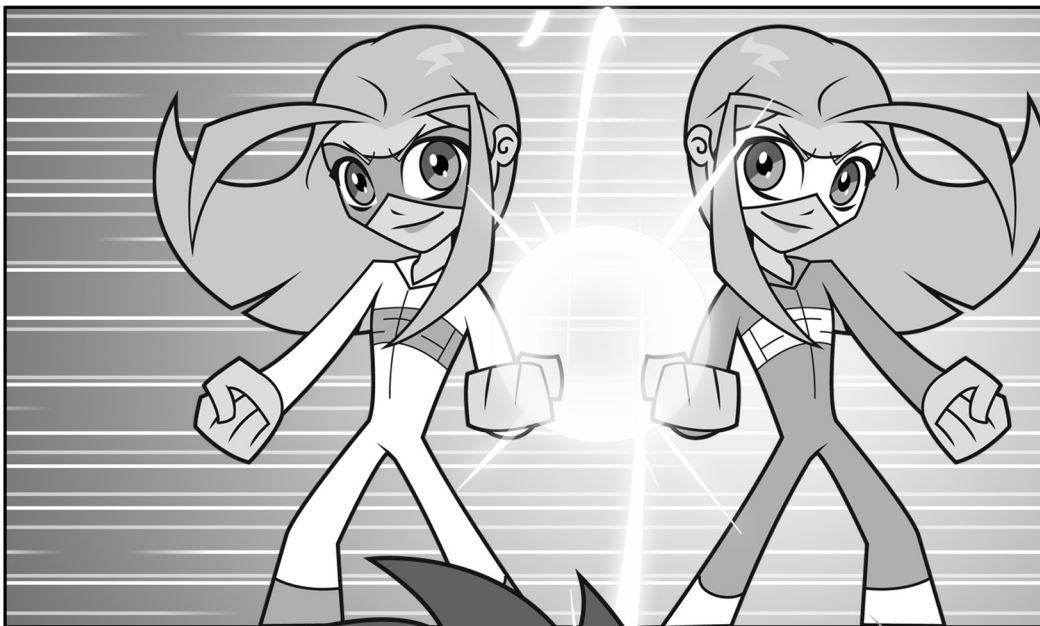
I am thankful for: _____

Meet **THE NUMERATORS**

ONCE THERE WERE FOUR REGULAR KIDS WHO STUDIED MATH IN SCHOOL, JUST LIKE YOU. MY NAME IS DR. JAX. 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 IN TWO EQUAL PARTS FOR A DOUBLE ATTACK!

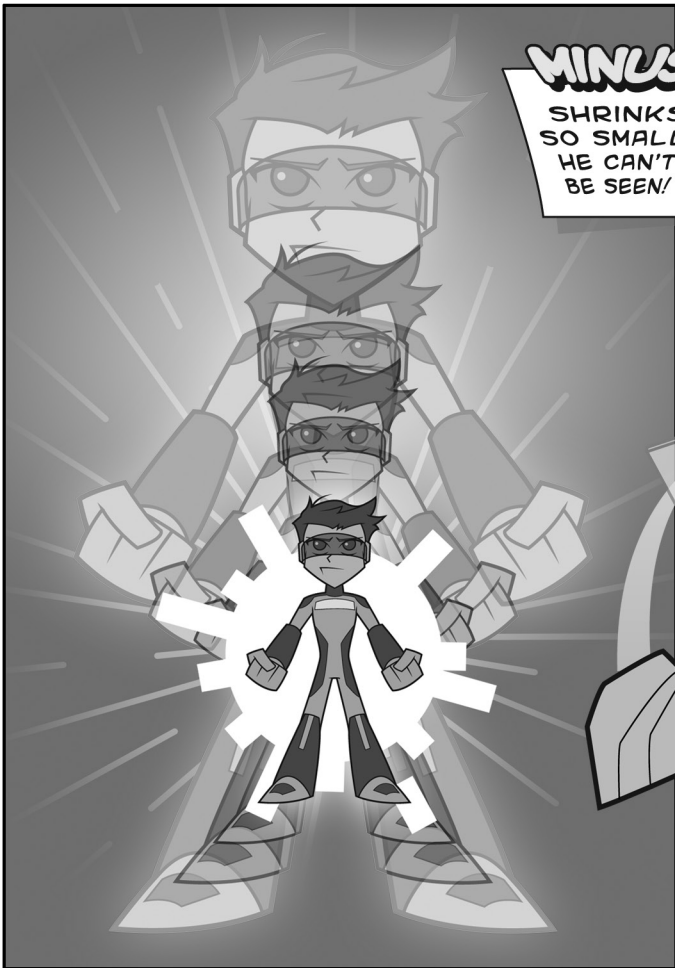
FRACTION

FIGHTS WITH A POWERFUL SLASH!



MINUS

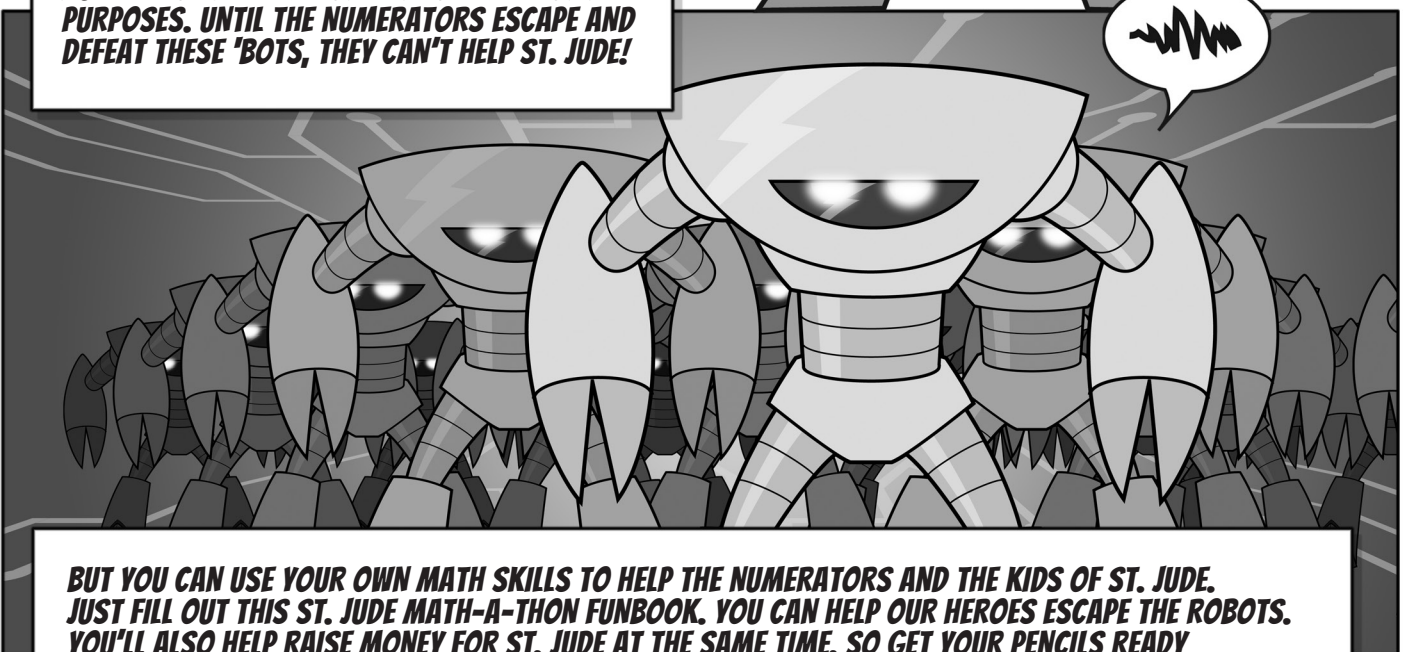
SHRINKS
SO SMALL,
HE CAN'T
BE SEEN!



OCTAGON

KEEPS
ENEMIES AWAY
WITH AN
EIGHT-SIDED
FORCE
FIELD!

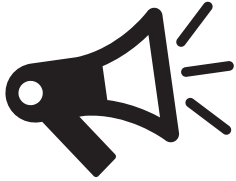
...BUT ROBOTS LAUNCHED A SURPRISE ATTACK ON OUR HEROES. THE ROBOTS WANTED TO STEAL THE NUMERATORS' MATH POWERS FOR THEIR OWN PURPOSES. UNTIL THE NUMERATORS ESCAPE AND DEFEAT THESE 'BOTS, THEY CAN'T HELP ST. JUDE!



BUT 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. YOU CAN 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!

Take the first step today!

It doesn't take much – just a few dollars and a little time.



Get the word out.

Go to **mathathon.org** and use the online tools to reach out to friends, family and neighbors and raise money to support your St. Jude Math-A-Thon® goals.



Do the math.

Complete the five worksheets in this Funbook by your school's deadline of _____.



Celebrate.

Tally the results of your efforts, and celebrate!

Make a difference with The St. Jude MATH-A-THON



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.



The St. Jude Math-A-Thon is a math-enrichment fundraiser with a real-world purpose!



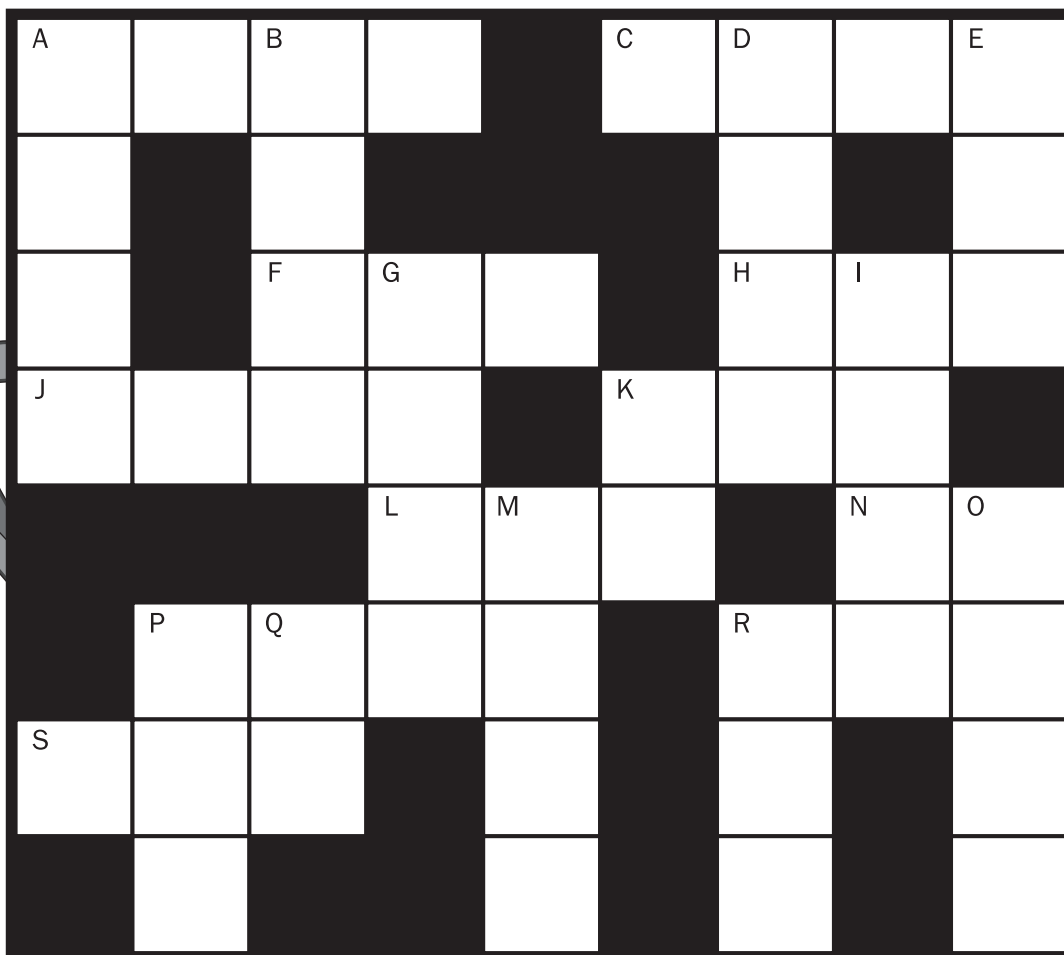
St. Jude freely shares its discoveries so that one child saved at St. Jude means doctors and scientists can use that knowledge to save thousands more children.



It helps students practice math skills while providing the opportunity to help kids just like them!

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. $300 + 90 + 1$

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.	$\begin{array}{r} 489 \\ + 1,307 \\ \hline \end{array}$	2.	$\begin{array}{r} 874 \\ + 929 \\ \hline \end{array}$	3.	$\begin{array}{r} 2,000 \\ - 93 \\ \hline \end{array}$	4.	$\begin{array}{r} 1,900 \\ - 111 \\ \hline \end{array}$	5.	$\begin{array}{r} 1,609 \\ + 203 \\ \hline \end{array}$
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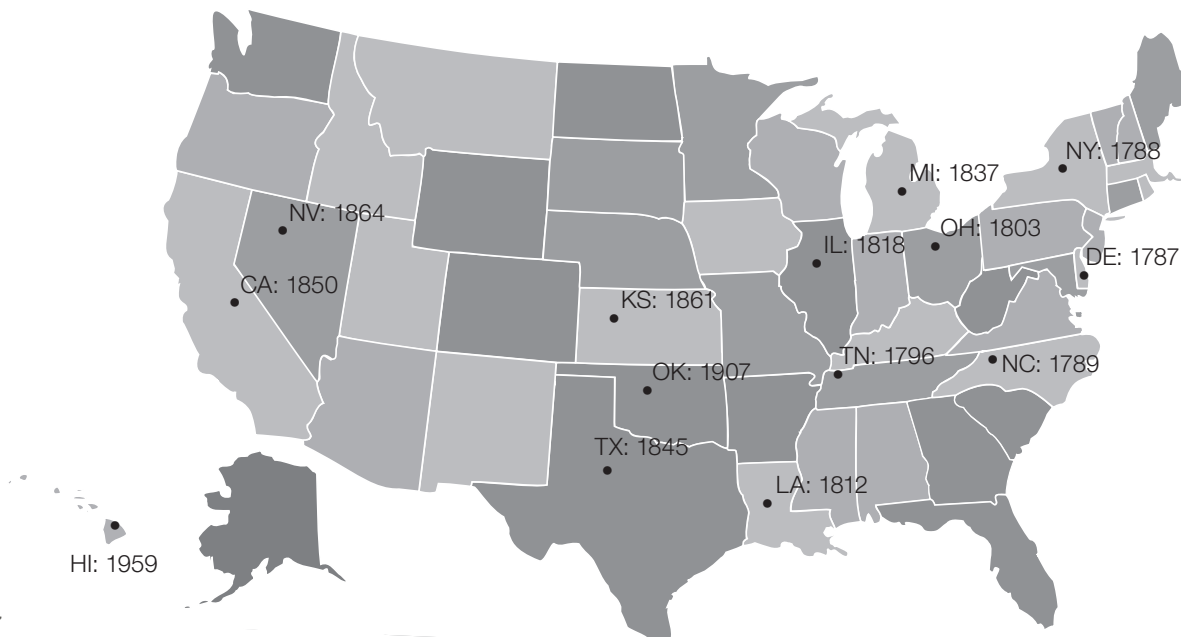
6.	$\begin{array}{r} 2,788 \\ - 1,001 \\ \hline 1,787 \end{array}$	7.	$\begin{array}{r} 909 \\ + 909 \\ \hline \end{array}$	8.	$\begin{array}{r} 897 \\ + 891 \\ \hline \end{array}$	9.	$\begin{array}{r} 1,094 \\ + 767 \\ \hline \end{array}$	10.	$\begin{array}{r} 1,860 \\ + 99 \\ \hline \end{array}$
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Delaware (DE)

1st

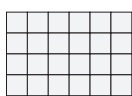
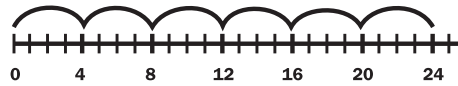
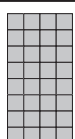

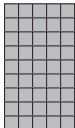
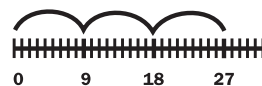
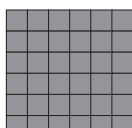
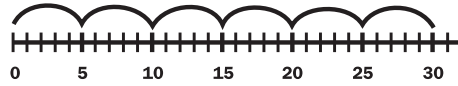
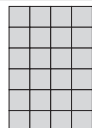
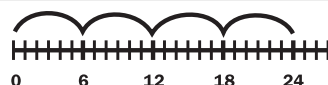
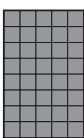
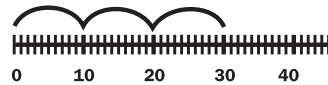
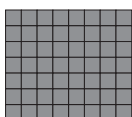
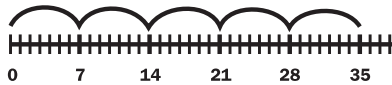


50th

11.	$\begin{array}{r} 2,037 \\ - 173 \\ \hline \end{array}$	12.	$\begin{array}{r} 2,416 \\ - 571 \\ \hline \end{array}$	13.	$\begin{array}{r} 1,038 \\ + 799 \\ \hline \end{array}$	14.	$\begin{array}{r} 2,009 \\ - 159 \\ \hline \end{array}$
-----	---	-----	---	-----	---	-----	---

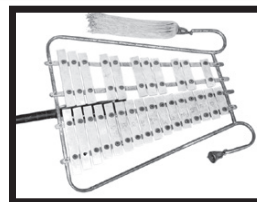


Bells Are Ringing

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	6×4 I	 J
2.	$8 + 8 + 8 + 8$ J	 K	4×9 L	 M
3.	$9 + 9 + 9 + 9 + 9$ L	 M	5×9 N	 O
4.	$5 + 5 + 5 + 5 + 5 + 5 + 5$ J	 K	6×5 L	 M
5.	$6 + 6 + 6 + 6$ C	 D	4×4 E	 F
6.	$8 + 8 + 8 + 8 + 8$ K	 L	5×8 M	 N
7.	$7 + 7 + 7 + 7 + 7 + 7 + 7 + 7$ P	 Q	8×7 R	 S
8.	$9 + 9 + 9 + 9$ O	 P	4×9 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

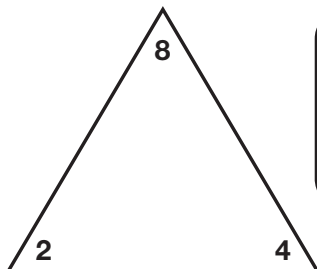
6. What are some ways Devon can build a mix of airplanes, cars, and motorcycles using a total of 24 wheels?

Show two ways in the chart below.

_____ airplanes	_____ airplanes
_____ cars	_____ cars
_____ motorcycles	_____ motorcycles
<u>24</u> wheels in all	<u>24</u> 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.



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!

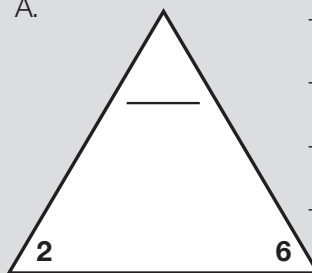
For this problem: $4 \times 2 = 8$.
The product is 8.



FACT FAMILY

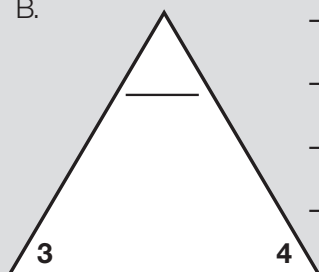
$$\begin{array}{ll}
 4 \times 2 = 8 & 2 \times 4 = 8 \\
 8 \div 4 = 2 & 8 \div 2 = 4
 \end{array}$$

A.



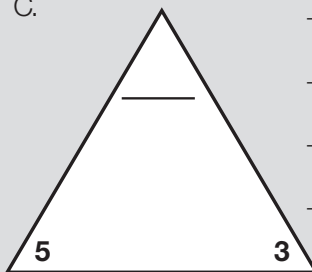
$$\begin{array}{l}
 ___ \times ___ = ___ \\
 ___ \times ___ = ___ \\
 ___ \div ___ = ___ \\
 ___ \div ___ = ___
 \end{array}$$

B.



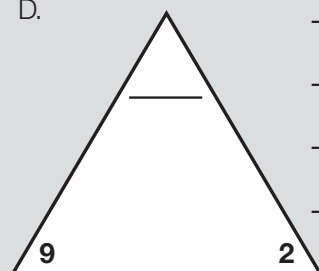
$$\begin{array}{l}
 ___ \times ___ = ___ \\
 ___ \times ___ = ___ \\
 ___ \div ___ = ___ \\
 ___ \div ___ = ___
 \end{array}$$

C.



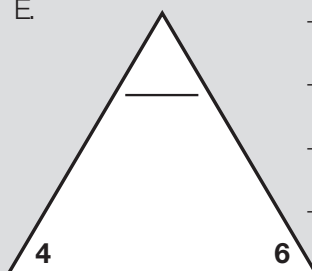
$$\begin{array}{l}
 ___ \times ___ = ___ \\
 ___ \times ___ = ___ \\
 ___ \div ___ = ___ \\
 ___ \div ___ = ___
 \end{array}$$

D.



$$\begin{array}{l}
 ___ \times ___ = ___ \\
 ___ \times ___ = ___ \\
 ___ \div ___ = ___ \\
 ___ \div ___ = ___
 \end{array}$$

E.



$$\begin{array}{l}
 ___ \times ___ = ___ \\
 ___ \times ___ = ___ \\
 ___ \div ___ = ___ \\
 ___ \div ___ = ___
 \end{array}$$



LEVEL 3

FUNBOOK

Answers:

Page 6: Number Puzzler

A	3	4	B	9	8		C	1	D	2	6	E	7
	5			3						0			1
	0		F	1	3	5				4	5		6
	8	2	4	1			H	8	9	4			
					I	2	M	5	2		N	3	O
		P	4	2	3	7			3	0	5		
S	9	0	3			3			9				9
		9				4			1				0

Page 7:

States and Dates

- 1,796; Tennessee (TN)
- 1,803; Ohio (OH)
- 1,907; Oklahoma (OK)
- 1,789; North Carolina (NC)
- 1,812; Louisiana (LA)
- 1,787; Delaware (DE)
- 1,818; Illinois (IL)
- 1,788; New York (NY)
- 1,861; Kansas (KS)
- 1,959; Hawaii (50th state) (HI)
- 1,864; Nevada (NV)
- 1,845; Texas (TX)
- 1,837; Michigan (MI)
- 1,850; California (CA)

Page 8:

Bells Are Ringing

- G
 - L
 - O
 - K
 - E
 - N
 - S
 - P
- GLOCKENSPIEL

Page 9:

Planes, Motorcycles and Cars

- 4
- 6
- 12
- 4 (airplanes), 6 (cars), 12 (motorcycles)
- Devon can make the fewest airplanes because the airplanes require the greatest number of wheels.
- Answers will vary. The total sum of the wheels must be 24.

Page 10:

Fact Family Triangles

- $2 \times 6 = 12$; $6 \times 2 = 12$; $12 \div 6 = 2$; $12 \div 2 = 6$
- $3 \times 4 = 12$; $4 \times 3 = 12$; $12 \div 4 = 3$; $12 \div 3 = 4$
- $5 \times 3 = 15$; $3 \times 5 = 15$; $15 \div 3 = 5$; $15 \div 5 = 3$
- $9 \times 2 = 18$; $2 \times 9 = 18$; $18 \div 2 = 9$; $18 \div 9 = 2$
- $6 \times 4 = 24$; $4 \times 6 = 24$; $24 \div 4 = 6$; $24 \div 6 = 4$

Check out the St. Jude Math-A-Thon® Fundraising Hub!

mathathon.org

Take your fundraising efforts to the next level! Packed with tools to help you manage your fundraising efforts, raise more money and save time, **mathathon.org** includes tools to help you:

- ☐ Create your web page and set your goal
- ☐ Accept online donations
- ☐ Track your fundraising progress
- ☐ Customize emails to request donations and thank sponsors
- ☐ Spread the word about your event through social networks

Remember, because of you, the St. Jude Math-A-Thon can continue to raise money to help St. Jude find cures and save children.



ST. JUDE
MATH-A-THON

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