

Name: \_\_\_\_\_

Only use a pencil to write the numbers on the blank lines. You do not need any scrap paper! Solve it in your head. If you forget a number, then start over. Cool, huh?

# Mental Math



= Do it  
in your  
head!

imagine 3 in your head

add 5

multiply 9

Write the ones digit.

\_\_\_\_\_   
 A

imagine 6 in your head

multiply 12

subtract 9

add 1

Add the tens digit to the ones digit.

Write the sum.

\_\_\_\_\_   
 B    C

imagine 5 in your head

multiply 4

double it

subtract 9

add 6

add 5

Write the ones digit.

\_\_\_\_\_   
 D

imagine 9 in your head

subtract 7

multiply 12

double it

add 5

subtract 9

Add the tens digit to the ones digit.

Write the sum.

\_\_\_\_\_   
 E

What is the sum?

A + B + C + D + E

\_\_\_\_\_

Wow! Great job! That's the answer, but do you know how to SPELL the number?

\_\_\_\_\_ e n \_\_\_\_\_

1 after 15 \_\_\_\_\_

1 before 13 \_\_\_\_\_

6 after 19 \_\_\_\_\_

5 after 17 \_\_\_\_\_

9 before 18 \_\_\_\_\_

8 after 14 \_\_\_\_\_

4 after 18 \_\_\_\_\_

4 before 14 \_\_\_\_\_

2 after 13 \_\_\_\_\_

Name: \_\_\_\_\_

Cross off the number that does NOT belong.

29, 34, 41, 50, 61, 74, 89, 106, 117, 125, 146, 169, 194, 221

Why does \_\_\_\_\_ not belong in the pattern?

Cross off the number that does NOT belong.

(59,049), (19,683), (6,561), (2,187),

(729), (243), (132), (81),

(27), (9)

Why does \_\_\_\_\_ not belong in the pattern?

Name: \_\_\_\_\_

Mushrooms produce a tremendous number of spores. However, very few spores go on to establish a new mushroom colony. A "colony" is actually a little bunch of fuzzy-looking cells called a mycelium. Let's say a particular mushroom produces a billion spores in a day. If a third of one percent of those spores successfully produces a new mycelium, how many of the spores were successful?

Hannah's banana-peanut bread has two-thirds of a cup of peanuts in each loaf. If Hannah makes eleven loaves of the bread to share with her friends, how many cups of peanuts will she need?

Anne can't wait for her friend to visit.

"As soon as you leave the airport, drive 37 miles to exit 5," says Anne.

"I don't think you mean miles. They use kilometers here," says Amy.

Help Anne tell Amy how many kilometers to drive. Use 1 mile = 1.6 kilometers.

$$\begin{array}{r} 456 \\ 2,206 \\ + 377 \\ \hline \end{array}$$

Write the decimal number for:  
seventy-two thousandths

$$\begin{array}{r} 206 \\ + 53 \\ \hline \end{array}$$

Name: \_\_\_\_\_

Cross off the number that does NOT belong.

4, 8, 12, 16, 20, 24, 28, 29, 32, 36

Why does \_\_\_\_\_ not belong in the pattern?

Cross off the number that does NOT belong.

4.7, 21.1, 25.8, 46.9, 72.7, 119.6, 192.3, 311.9,  
504.2, 649.2, 816.1, 1320.3, 2136.4, 3456.7, 5593.1

Why does \_\_\_\_\_ not belong in the pattern?

Name: \_\_\_\_\_

Mr. Moore made a pot of tea at his restaurant. The pot holds 12 servings of tea. If each serving is  $3\frac{1}{3}$  oz, how many ounces of tea does the pot hold?

The letters H and X each have a line of symmetry. Name another letter between H and X that has a line of symmetry.  
 \_\_\_\_\_

Rewrite these in increasing order of length:  
 589 cm, 864 km, 283 m, 367 dm, 24 mm

$9 \times 7 =$  \_\_\_\_\_

Circle the addition property for  $80 + 199 = 199 + 80$ .  
 associative property  
 commutative property

$$\begin{array}{r} 82 \\ - 65 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ + 40 \\ \hline \end{array}$$

Ava rolls a die. What is the chance of her rolling a 2?  
 \_\_\_\_\_

$675 - 512 =$  \_\_\_\_\_

$$\begin{array}{r} 431 \\ + 301 \\ \hline \end{array}$$

$70 \div 10 =$  \_\_\_\_\_

9 lb = \_\_\_\_\_ oz

$11 \times 4 =$  \_\_\_\_\_

Name: \_\_\_\_\_

$8,682 - 3,445 = \underline{\hspace{2cm}}$	Circle the digit in the hundredths place. 231.22
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Amanda rolls two dice. She adds the numbers on the two dice. What is the chance of this sum being seven?	$108 \div 9 = \underline{\hspace{2cm}}$	<table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;">804</td></tr> <tr><td style="text-align: right;">- 419</td></tr> <tr><td style="text-align: right;">-----</td></tr> </table>	804	- 419	-----
804					
- 419					
-----					

Ava cannot open her locker. She knows that the three numbers are: 25, 11, and 24, but she cannot remember the order of the numbers. How many different combinations are there? List ten of them.	How many inches are in 2 feet? _____ inches				
	<table style="width: 100%;"> <tr> <td style="width: 50%;"><math>11 \times 11 = \underline{\hspace{2cm}}</math></td> <td style="width: 50%;"><math>42 \div 6 = \underline{\hspace{2cm}}</math></td> </tr> <tr> <td></td> <td style="padding: 5px;"><math>4 \times 12 = \underline{\hspace{2cm}}</math></td> </tr> </table>	$11 \times 11 = \underline{\hspace{2cm}}$	$42 \div 6 = \underline{\hspace{2cm}}$		$4 \times 12 = \underline{\hspace{2cm}}$
$11 \times 11 = \underline{\hspace{2cm}}$	$42 \div 6 = \underline{\hspace{2cm}}$				
	$4 \times 12 = \underline{\hspace{2cm}}$				

Write 81,415 in words. _____	$9 \times 4 = \underline{\hspace{2cm}}$
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1 cm = 10 mm 9 cm = _____ mm	Write an equation to represent this: The difference between eighteen and four is fourteen. _____
---------------------------------	--

$9 \times 3 = \underline{\hspace{2cm}}$
---

Name: \_\_\_\_\_

What number is halfway between 21 and 29?	$11 \times 7 = \underline{\hspace{2cm}}$	$99 \div 9 =$
---	--	---------------

Can 252 be evenly divided by 6? Circle: 252 is NOT evenly divisible by 6 252 is evenly divisible by 6	You have four digits to use in an addition problem: 7, 8, 1, and 5. Make up a problem where you have two 2-digit numbers. What is the largest sum you can make?
---	---

$88 \div 11 = \underline{\hspace{2cm}}$
---

$84,168 + 91,728 = \underline{\hspace{2cm}}$	Mary is going to roll two dice. What is the chance that her total will be either 8 or higher on her first roll?	
$20 \div 10 = \underline{\hspace{2cm}}$		$8 \times 9 = \underline{\hspace{2cm}}$
$48 \div 4 =$		

$98,252 + 19,547 = \underline{\hspace{2cm}}$	Circle the smallest number: 8,521 128,745,309,643 17,490,263,853 67,490
--	---

Name: \_\_\_\_\_

7 • 9 • 7 • 2 • 1 • 4 • 3 • = • 1 • 6 • x • = • 0 • 5 • ÷ • 8  
0 • 4 • = • 0

Use the pieces above to help you fill in the runaway math puzzle.

The puzzle grid contains the following numbers and symbols in various orientations:

- Top right:  $\square$  (above),  $\square \times 9 = 81$  (horizontal),  $3$  (vertical),  $\square \times 5 = 35$  (horizontal),  $2$  (vertical),  $\square \times 4 = \square$  (vertical),  $\square = \square$  (vertical).
- Middle right:  $9 \times \square = \square 8$  (horizontal),  $7$  (vertical),  $\square \div 9 = \square$  (vertical),  $7$  (vertical),  $2 \times 3 = \square$  (horizontal).
- Middle left:  $3$  (vertical),  $\div$  (vertical),  $\square$  (vertical),  $=$  (vertical),  $1 \times 0 = 0$  (horizontal),  $5$  (vertical),  $9$  (vertical),  $4 \square 2 \square 8$  (horizontal),  $0$  (vertical).
- Bottom left:  $\square$  (above),  $\square \square 5 = 1$  (horizontal),  $\square$  (vertical),  $\square$  (vertical),  $\square \div 1 \square 4$  (horizontal),  $\square$  (vertical).

Shaded cells are located at the intersection of the horizontal path  $1 \times 0 = 0$  and the vertical path  $5$ , and at the intersection of the horizontal path  $\square \square 5 = 1$  and the vertical path  $\square$ .

$12 \times 10 = \underline{\hspace{2cm}}$

$95,319 + 74,822 = \underline{\hspace{2cm}}$

In the number 9,267,219, the digit 6 is in what place?

\_\_\_\_\_

$746 - 594 = \underline{\hspace{2cm}}$

Name: \_\_\_\_\_

Each side of a regular pentagon is 67.4 centimeters. What is the perimeter?

$p - \$68 = \$27$   
What is the value of  $p$ ?

If  $y = 12$  and  $f = -6$  then what is  $y^2 - f^2$ ?

A circle graph has four sections. Only three sections are labeled. The labels are 27%, 12%, and 7%. What should the missing section be?

Dr. Rock discovered a new planet. As he explains it, this new planet has a diameter that is 9.22 times that of Earth's. If Earth's diameter is 12,756 kilometers, then what is this new planet's diameter?

What is the prime factorization of 45?

$$7 \times 54 \div 6 - 55 \div 11 =$$

Simplify.

$$\frac{25}{40} =$$

$$|-67| - [49] =$$

What is the mode of the following number set?

50, 64, 58, 48, 62, 54, 62, 52, 48, 60, 63, 49, 49, 50

$$\frac{8}{9} \times \frac{3}{9}$$

$$\frac{2}{3} + \frac{2}{c} = 1\frac{1}{15}$$

$$c =$$

Name: \_\_\_\_\_

At the mud factory, Purple's job is to scoop up mud and make it into kilogram blocks of mud. She loves her job! Today there were 891,648,350 milligrams of mud trucked in. Each mud block is precisely 1 kilogram, no less, no more. How many mud blocks can she make today?

"Hey, Ted!" called out his friends. But Ted didn't reply. He was texting. They don't call him Texty Ted for nothing! Ted can send 15 texts in 2 minutes and 15 seconds. At precisely 2:25 and 0 seconds, Ted sat outside the school and started to send texts. He sent texts until 2:55 and 0 seconds when his phone ran out of power. How many texts do you think Texty Ted completed and sent?

Name: \_\_\_\_\_

In each group, circle the number that has the greatest value, and put a square around the number that has the least value.

$6^4$

$6^1$

$6^3$

$3^5$

$3^3$

$3^1$

Jen is really into science. She invented a robotic bug that burps. Her brother loved it, so she wanted to send the robot to her brother. She checked her phone, and her brother is currently 3.7 miles away. After she set the coordinates on the phone, the robotic bug left. She got a burp confirmation 244.2 seconds later when it reached her brother. How fast did this robotic bug travel in miles per hour? Round your answer to the nearest mile. Hint: Convert time to hours. Then divide the miles by the time in hours.

Name: \_\_\_\_\_

$$\begin{array}{r} \frac{3}{8} \\ - \frac{1}{8} \\ \hline \end{array}$$

Reduce each fraction to a mixed numeral in its lowest terms.

$$\frac{210}{24} =$$

$$\frac{35}{14} =$$

$$\frac{4}{8} =$$

$$\frac{56}{8} =$$

$$\frac{96}{16} =$$

$$\frac{32}{40} =$$

$$\begin{array}{r} 3.2 \\ 584.43 \\ 973.7 \\ + \quad 5.414 \\ \hline \end{array}$$

$$\frac{2}{3} \times \frac{1}{12} =$$

Use >, <, or = to complete.

$$261.64 \text{ \_\_\_ } 258$$

$$12.560 \text{ \_\_\_ } 12.56$$

$$23.6 \text{ \_\_\_ } 23.75$$

$$215 \text{ \_\_\_ } 211.6$$

$$12.4 \text{ \_\_\_ } 12.82$$

$$158 \text{ \_\_\_ } 159.4$$

$$183 \text{ \_\_\_ } 182.3$$

$$5 \overline{) 5815}$$

Divide and write remainder.

Find 73% of 145.

96 is what percent of 320?

Find 8% of 40.

Name \_\_\_\_\_



Date \_\_\_\_\_

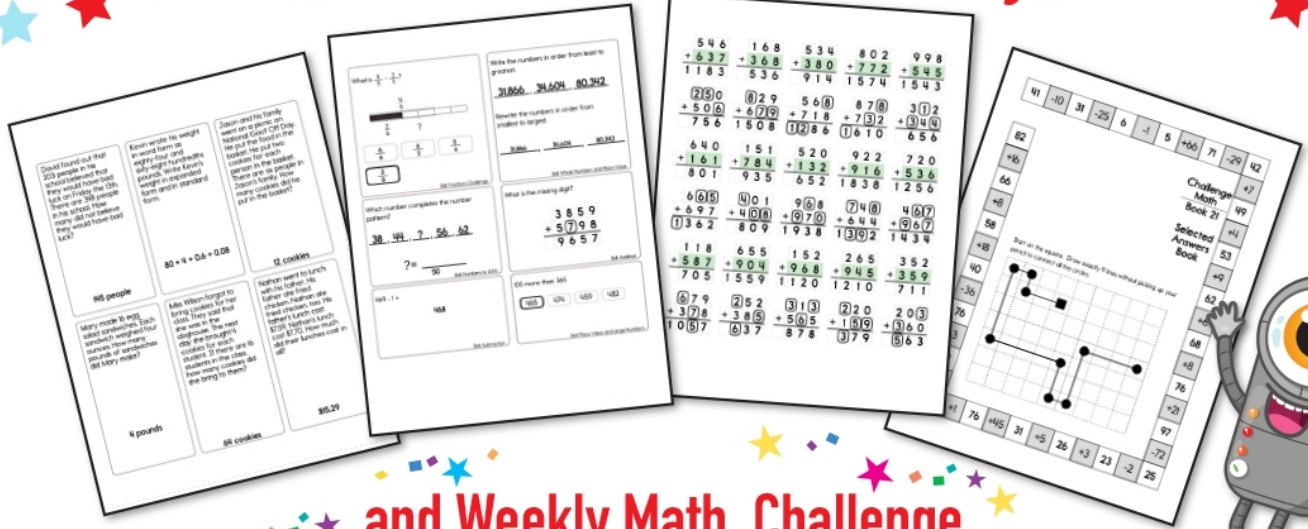
Start on the **B** circle. Do not pick up your pencil. Draw a line going left, right, up, or down. **Every line must end on a circle. No stopping on an empty box.** Try to collect all the circles and finish your last line on the **E** circle. You can go through a circle more than once.

								●	●
●	●								
	●		●			●			
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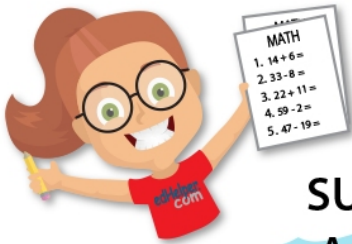
Didn't get them all? That's ok. This was hard.

I missed \_\_\_\_\_ circle(s).

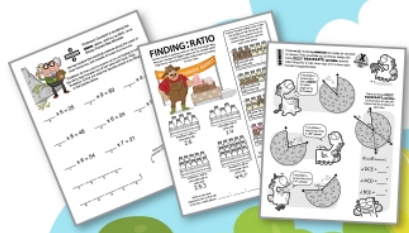
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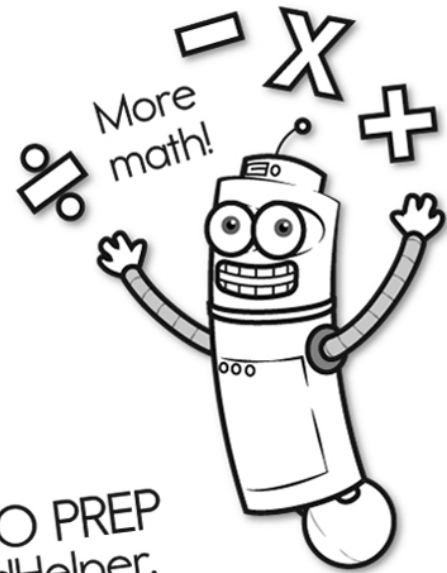
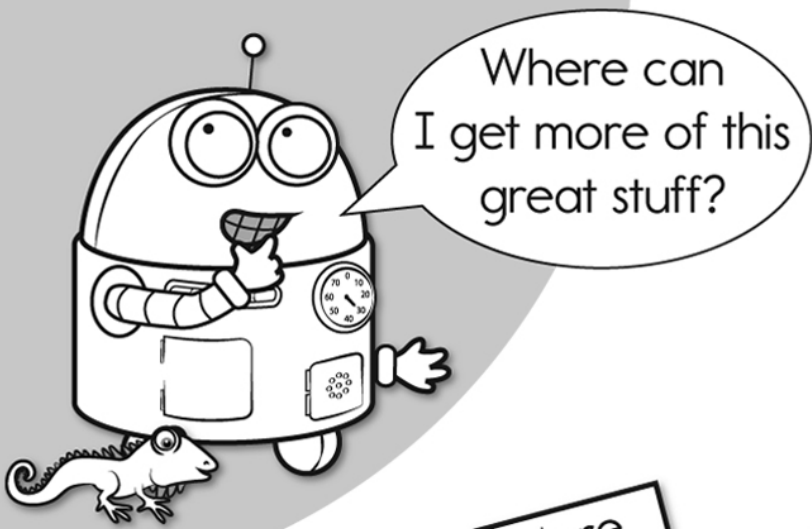
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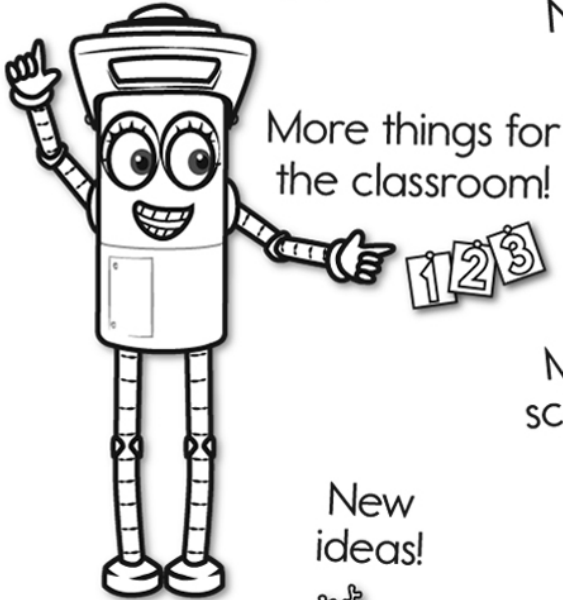
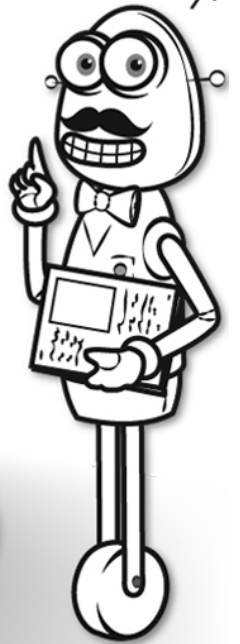
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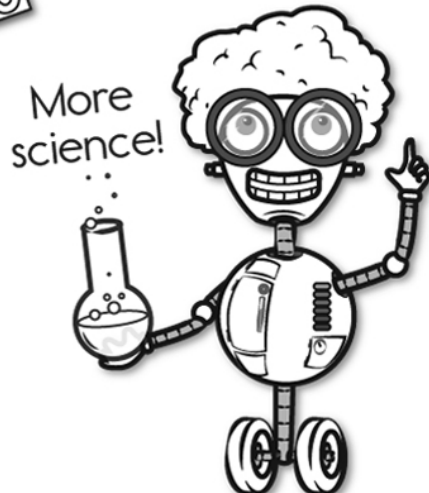


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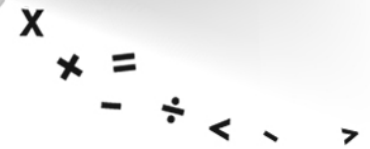
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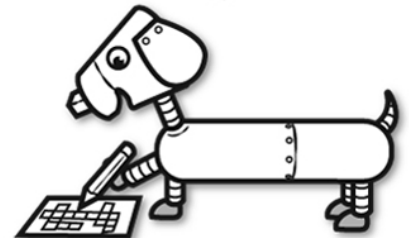
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