Math Brainteasers

4th
Grade

lam a number between 60 and 80. 6 l am an even number. I am a multiple of 8. The sum of my digits is 10. 5 What number am 1? 6 Magic Squares +

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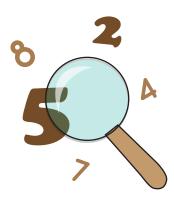
^{*} Includes Answer Sheet

Mystery Numbers

Directions: Read all of the clues to determine the mystery number. Use the space provided below each problem to show your work.

Example:

I am a number between 20 and 40.
I am an even number.
I am a multiple of 8.
The sum of my digits is 5.
What number am I?



To solve this problem, follow these steps.

- Make a list of the numbers between 20 and 40.
 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39
- 2. Eliminate all odd numbers. 21, 22, 27, 24, 25, 26, 27, 28, 27, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39
- 3. Eliminate all numbers that are NOT multiples of 8. 2½, 24, 26, 25, 30, 32, 34, 36, 35
- 4. Add the digits of the remaining numbers to determine the answer. 2+4=6 and 3+2=5

Through the process of elimination, I know that the mystery number is 32 because it is a match for ALL clues.

Try this one on your own:

I am a number between 10 and 30.
I am an odd number.
I am a multiple of 7.
The sum of my digits is 3.
What number am I?



Mystery Numbers 2

Directions: Read all of the clues to determine the mystery number. Use the space provided below each problem to show your work.



I am a number between 30 and 50.
 I am an odd number.
 I am a multiple of 7.
 The sum of my digits is 13.
 What number am I?

I am a number between 60 and 80.
 I am an even number.
 I am a multiple of 8.
 The sum of my digits is 10.
 What number am I?

Mystery Numbers 3

Directions: Read all of the clues to determine the mystery number. Use the space provided below each problem to show your work.



I am a number between 90 and 120.
 I am an even number.
 I am a multiple of 11.
 The sum of my digits is 2.
 What number am I?

2. I am a number between 1 and 101.

When you are counting by 25 (or counting the value of quarters) you say my name.

I am an odd number.

What number am 1?

The sum of my digits is 12.

Missing Digits: Addition 6?

Directions: Find the missing digits in the following problems. Place your answers in the boxes provided.

Example:

Since 45 + 13 = 58, the problem should look like this

² Missing Digits: Subtraction 6?

Directions: Find the missing digits in the following problems. Place your answers in the boxes provided.

Missing Digits: Addition and Subtraction

Directions: Find the missing digits in the following problems. Place your answers in the boxes provided.

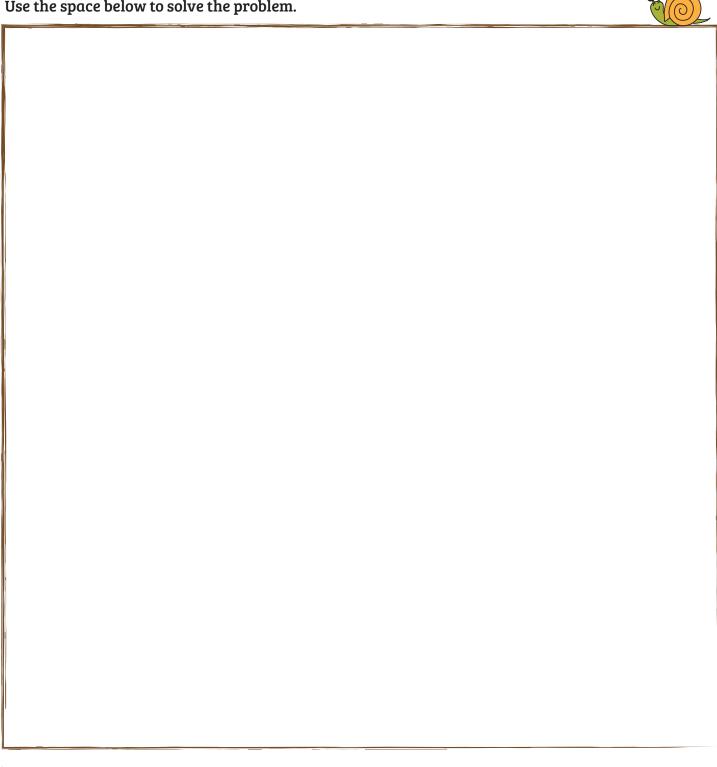
Name		
Nume		

Date_____



Directions: Read the problem and solve. (Hint: Draw a picture to help.)

A snail is trying to get to the top of a drain pipe that is 50 inches tall.
Every hour the snail goes up 7 inches but falls back 2 inches.
At this rate, how many hours will it take the snail to reach the top of the drain pipe?
Use the space below to solve the problem.





N.I.			
Name			

Date_____



Directions: Read the problem and solve. (Hint: Draw a picture to help.)

A turtle crawls up a 12-foot hill after a storm.

The turtle crawls 4 feet and stops to rest. It slides back 1 ½ feet when it stops. The turtle repeats this pattern until he reaches the top of the hill. How many tries does the turtle take before he reaches the top of the hill? Use the space below to solve the problem.





Name	Date
Name	- Date



Directions: Read the problem and solve. (Hint: Draw a picture to help.)

Use the space below to solve the problem.

A dolphin wants to reach the bottom of a 50-foot pool to pick up some diving rings. Each time he plunges down 10 feet, he floats back up 2 feet. How many times will the dolphin have to plunge down in the water to reach the rings?



Directions: Read each clue. Solve for the clue and shade in the answer(s) on the hundreds board.

- 1. Shade the numbers between 4 and 7.
- 2. Shade the number that is 7 times 2.
- 3. Shade the number that is between 10 and 20 whose digits add up to 8.
- 4. Shade the number that is 22 less than 45.
- 5. Shade the number that is $2 \times 10 + 8$.
- 6. Shade the number that is 30 more than 2.
- 7. Shade the number that is one less than 40.
- 8. Shade the number that is half of 86.
- 9. Shade the number that is 2 less than the value of 2 quarters.
- 10. Shade the number that is 6×9 .
- 11. Shade the number that is $5 \times 10 + 7$.
- 12. Shade the numbers between 64 and 67.
- 13. Shade the value of 3 quarters.
- 14. Shade the number that is $2 \times 30 + 16$.
- 15. Shade the value of 1 dollar 16 cents.
- 16. Shade the value of 8 tens and 7 ones.
- 17. Shade the numbers between 90 and 101 excluding 94, 95, 96 and 97.



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Directions: Read each clue. Solve for the clue and shade in the answer(s) on the hundreds board.

- 1. Shade the value of a dime and 2 pennies.
- 2. Shade the number that is 7 times 2.
- 3. Shade the numbers between 16 and 20.
- 4. Shade the number that is double 11.
- 5. Shade the number that is one penny less than a quarter.
- 6. Shade the number that is 10 + 10 + 8.
- 7. Shade the number that is two more than 30.
- 8. Shade the number that is $15 \times 2 + 4$.
- 9. Shade the number that is 2 less than the value of 4 dimes.
- 10. Shade the numbers between 41 and 45.
- 11. Shade the number that is 2 less than 50.
- 12. Shade the number that represents the value of 5 dimes and 2 pennies.
- 13. Shade the number that is 9×6 .
- 14. Shade the number that is 100 less than 158.
- 15. Shade the value of 12 nickels and 2 pennies.
- 16. Shade the number that is 12 less than 76.
- 17. Shade the number that is $7 \times 10 2$.
- 18. Shade the number that is 21 less than 93.
- 19. Shade the number that is one penny less than 3 quarters.
- 20. Shade the numbers between 76 and 80.



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Directions: Read each clue. Solve for the clue and shade in the answer(s) on the hundreds board.

- 1. Shade all single-digit numbers.
- 2. Shade all multiples of 10.
- 3. Shade all numbers with a 1 in the ones place.
- 4. Shade the number with the value of 5 nickels and 3 pennies.
- 5. Shade the number that is 11 + 11 + 11.
- 6. Shade the number that is one cent less than a quarter.
- 7. Shade the number that is $10 \times 3 + 4$.
- 8. Shade the number that is 9 x 3.
- 9. Shade the number that is 3 less than 40.
- 10. Shade the number that is 40 less than 68.
- 11. Shade the value of 3 dimes, 1 nickel and 3 pennies.
- 12. Shade the value of 2 quarters and 3 pennies.
- 13. Shade the number that is 3 less than 61.
- 14. Shade the number that is 3 more than the number of minutes in an hour.
- 15. Shade the even number between 66 and 69.
- 16. Shade the even numbers between 73 and 79.
- 17. Shade the odd numbers between 72 and 78.
- 18. Shade the numbers between 91 and 100.



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Patterns in Problem Solving

Directions: Solve each problem by making a table.

Example: Gary ate 1 marshmallow on Monday, 3 marshmallows on Tuesday and 9 marshmallows on Wednesday. If this pattern continues, how many marshmallows will Gary eat on Friday?

Use a table to solve this problem.

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Marshmallows eaten	1	3	9		

Note the pattern: Gary is eating 3 times as many marshmallows each day. Therefore, on Thursday he will eat 27 and on Friday he will eat 81.

The completed table would look like this:

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Marshmallows eaten	1	3	9	27	81

The answer would be: Gary will eat 81 marshmallows on Friday.

1. Ruby had 1 rock in her rock collection on Monday, 3 rocks on Tuesday, 6 rocks on Wednesday and 10 rocks on Thursday. If this pattern continues, how many rocks will she have on Saturday?



2. The Girl Scouts are giving away cookies to people at the mall. The first customer got 4 free cookies. The second customer got 8 free cookies. The third customer got 12 free cookies. The fourth customer got 16 free cookies. If this pattern continues, how many free cookies will the seventh customer get?
3. Jenny is giving away her seashell collection. In January she gave away 60 seashells. In February, she gave away 45 seashells. In March, she gave away 30 seashells. If this pattern continues, what month will she have 0 seashells left to give?



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Name			
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Date_____

More Patterns in Problem Solving

Directions: Solve each problem by making a table.

1. The students in Miss Harper's class are taking turns going to the water fountain. Three students went to the water fountain first. When they returned, 6 students went. The third time, 9 students went to the water fountain. If this pattern continues, how many students will go to the water fountain on the fifth trip?
2. Brent and his assistants are painting rooms in a new apartment building. The first day, they paint 2 rooms. The second day, they paint 4 rooms. The third day, they paint 6 rooms. If this pattern continues, how many rooms will they paint on the sixth day?

day, they paint 2 rooms. The second day, they paint 4 rooms. The third day, they paint 6 rooms. If this pattern continues, how many rooms will they paint on the sixth day?	t



3. Sasha is saving money from her allowance each week and placing it in her piggy bank The first week, she saves 10 cents. The second week, she saves 25 cents. The third week, she saves 40 cents. If this pattern continues, how much money will she save on the tenth week?
4. Using problem number 3, determine how much money will be in Sasha's piggy bank after 10 weeks of savings.

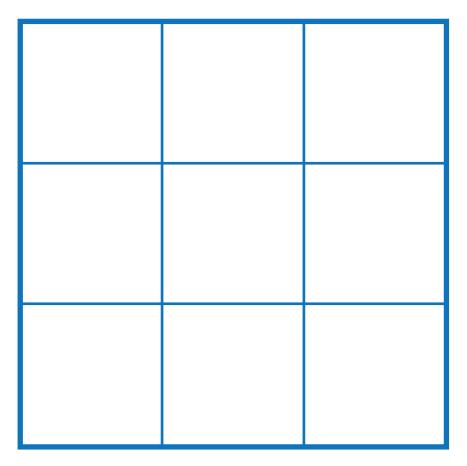


Name_

Date____



Directions: Cut out the digits at the bottom of the page and arrange them inside the magic square so that the sum of the three numbers in any direction (vertically, horizontally or diagonally) is 15.



1	2	3	4	5
6	7	8	9	



Directions: Complete the magic squares. The sum across each row and down each column must be the same as the sum along each diagonal.

1. Use the number 2-10 only once to complete this square

5		
	6	2
3		7

2. Use the number 1-9 only once to complete this square.

	1	8
	5	3
2		

3. Use the number 1-9 only once to complete this square.

	3	4
	5	
6		2



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Math Brainteasers

Mystery Numbers (Part One) Mystery Numbers (Part Two) Mystery Numbers (Part Three) Missing Digits: Addition Missing Digits: Subtraction Missing Digits: Addition and Subtraction Math Brainteasers: Slippery Snail Math Brainteasers: Trudging Turtle Math Brainteasers: Diving Dolphin Hundreds Board Challenge #1 Hundreds Board Challenge #2 Hundreds Board Challenge #3 Patterns in Problem Solving More Patterns in Problem Solving Magic Square Cutup Magic Squares

Name _____

Date____

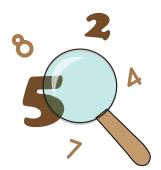
ANSWER SHEET

Mystery Numbers

Directions: Read all of the clues to determine the mystery number. Use the space provided below each problem to show your work.

Example:

I am a number between 20 and 40.
I am an even number.
I am a multiple of 8.
The sum of my digits is 5.
What number am I?



To solve this problem, follow these steps.

- 1. Make a list of the numbers between 20 and 40. 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39
- 2. Eliminate all odd numbers.

½(, 22, 2**)**, 24, **½**, 26, **½**, 28, 2**)**, 30, **¾**(, 32, 3**)**, 34, **¾**5, 36, **¾**, 38, **¾**

- 3. Eliminate all numbers that are NOT multiples of 8. 22, 24, 26, 28, 30, 32, 34, 36, 38
- 4. Add the digits of the remaining numbers to determine the answer.

2+4=6 and 3+2=5

Through the process of elimination, I know that the mystery number is 32 because it is a match for ALL clues.

Try this one on your own:

I am a number between 10 and 30.
I am an odd number.
I am a multiple of 7.
The sum of my digits is 3.
What number am I?



lame		Date
ANSWER SHEET	Mystery Numl	bers 2
	ne clues to determine the mystach problem to show your w	
 I am a number between lam an odd number. I am a multiple of 7. The sum of my digits What number am I? 		6
49		
2. Iam a number betwe	een 60 and 80.	
I am an even number l am a multiple of 8. The sum of my digits What number am I?	r.	
6.1		



lame	Date
ANSWER SHEET	Mystery Numbers 3
	the clues to determine the mystery number. Use the each problem to show your work.
 I am a number bet I am an even number I am a multiple of the The sum of my dig What number am 	per. 11. its is 2.
110	_
 I am a number bet When you are could I am an odd numb The sum of my dig What number am 	nting by 25 (or counting the value of quarters) you say my name. er. its is 12.
75	



Date_

ANSWER SHEET

Missing Digits: Addition



Directions: Find the missing digits in the following problems. Place your answers in the boxes provided.

Example:

Since 45 + 13 = 58, the problem should look like this

45

1.

2.

3.

5.

Missing Digits: Subtraction

ANSWER SHEET

Directions: Find the missing digits in the following problems. Place your answers in the boxes provided.

Name _____

Date____

Missing Digits: Addition and Subtraction

ANSWER SHEET

Directions: Find the missing digits in the following problems. Place your answers in the boxes provided.

Name	
	34.0



ANSWER SHEET

Directions: Read the problem and solve. (Hint: Draw a picture to help.)

A snail is trying to get to the top of a drain pipe that is 50 inches tall. Every hour the snail goes up 7 inches but falls back 2 inches. At this rate, how many hours will it take the snail to reach the top of the drain pipe? Use the space below to solve the problem.

Use the space below to solve the problem.	
It will take the snail 10 hours to reach the top of the drain pipe.	



Name	Data
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Trudging Turtle

ANSWER SHEET

Directions: Read the problem and solve. (Hint: Draw a picture to help.)

A turtle crawls up a 12-foot hill after a storm.

The turtle crawls 4 feet and stops to rest. It slides back 1½ feet when it stops. The turtle repeats this pattern until he reaches the top of the hill. How many tries does the turtle take before he reaches the top of the hill? Use the space below to solve the problem.



Ιŧ	will take	the	turtle	5 tr	ies be	efore	reaching	the to	on.	of the	hill
	will take	uic	toltie	J II	ICS DO		I E G C I I I I G	tile ti	עט	OI LIIE	

Name	Date
Diving Dol	lphin •

ANSWER SHEET

Directions: Read the problem and solve. (Hint: Draw a picture to help.)

A dolphin wants to reach the bottom of a 50-foot pool to pick up some diving rings. Each time he plunges down 10 feet, he floats back up 2 feet. How many times will the dolphin have to plunge down in the water to reach the rings? Use the space below to solve the problem.

It will take the dolphin 7 tries before reaching rings at the bottom of the pool.	



Name	D ate

ANSWER SHEET

Hundreds Board Challenge

The shaded design looks like a spaceship.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



Name	Date
1141110	. Date

ANSWER SHEET

Hundreds Board Challenge 2

The shaded area spells the word "HI".

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Name	Date:
1141110	Date

ANSWER SHEET

Hundreds Board Challenge 3

The shaded area makes a smiley face.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Directions: Solve ea	ch problem bụ	y making a tak	ole.		
Example: Gary ate 1 narshmallows on W Gary eat on Friday? Use a table to solve	/ednesday. If	this pattern co		-	
Day	Monday	Tuesday	Wednesday	Thursday	Friday
Marshmallows eaten	1	3	9		
Note the pattern: Go Thursday he will ea The completed tabl ————————————————————————————————————	t 27 and on Fr	iday he will ea	_	s each day. The	erefore, on Friday
Marshmallows eaten	1	3	9	27	81
The answer would b . Ruby had 1 rock Wednesday and 10 nave on Saturday?	in her rock col rocks on Thur	lection on Moi	nday, 3 rocks on	•	
21 rocks					



ame	Date
free cookies. The second cu	away cookies to people at the mall. The first customer go stomer got 8 free cookies. The third customer got 12 free got 16 free cookies. If this pattern continues, how many fre mer get?
28 cookies	
n February, she gave away 45	seashell collection. In January she gave away 60 seashells 5 seashells. In March, she gave away 30 seashells. If this h will she have 0 seashells left to give?
May	



NSWER SHEET	
More Pattern	is in Problem Solving
Pirections: Solve each problem by n	naking a table.
hree students went to the water fo	ss are taking turns going to the water fountain. ountain first. When they returned, 6 students went. he water fountain. If this pattern continues, how mar in on the fifth trip?
15 students	
lay, they paint 2 rooms. The second	ating rooms in a new apartment building. The first day, they paint 4 rooms. The third day, they paint ow many rooms will they paint on the sixth day?
lay, they paint 2 rooms. The second	d day, they paint 4 rooms. The third day, they paint
lay, they paint 2 rooms. The second rooms. If this pattern continues, he	d day, they paint 4 rooms. The third day, they paint
lay, they paint 2 rooms. The second rooms. If this pattern continues, he	d day, they paint 4 rooms. The third day, they paint
lay, they paint 2 rooms. The second rooms. If this pattern continues, he	d day, they paint 4 rooms. The third day, they paint
day, they paint 2 rooms. The second rooms. If this pattern continues, he	d day, they paint 4 rooms. The third day, they paint
day, they paint 2 rooms. The second rooms. If this pattern continues, he	d day, they paint 4 rooms. The third day, they paint



he first week,	she saves 10 cents. Th	ie second week, she s	and placing it in her pig saves 25 cents. The third oney will she save on the	week,
\$1.45				
. Using prob fter 10 weeks (nine how much mone	y will be in Sasha's piggų	y banl
\$7.75				



Name	Date
Nume	Date



Directions: Cut out the digits at the bottom of the page and arrange them inside the magic square so that the sum of the three numbers in any direction (vertically, horizontally or diagonally) is 15.

POSSIBLE SOLUTION

4	3	8
9	5	1
2	7	6

Name ______ Date _____



ANSWERS

Directions: Complete the magic squares. The sum across each row and down each column must be the same as the sum along each diagonal.

1. Use the number 2-10 only once to complete this square

5	4	9
10	6	2
3	8	7

2. Use the number 1-9 only once to complete this square.

6	1	8
7	5	3
2	9	4

3. Use the number 1-9 only once to complete this square.

8	3	4
1	5	9
6	7	2