# Math Brainteasers



2 3 5 8 I am a number between 60 and 80. 6 2 l am an even number. 3 2 I am a multiple of 8. The sum of my digits is 10. 5 2 What number am l? 6 1 Magic Squares

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\* Includes Answer Sheet



**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. ★, 22, 2★, 24, ★, 26, ★, 28, 2★, 30, ★, 32, 3★, 34, ★, 36, ★, 38, ★
- 3. Eliminate all numbers that are NOT multiples of 8. 2½, 24, 2∕6, 2∕6, 3∕0, 32, 3⁄4, 3∕6, 3∕8
- 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? Date.

8

5



**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?

2. 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?

Date\_\_\_\_

ზ



**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?

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.
 The sum of my digits is 12.
 What number am I?

Date\_\_\_\_\_



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

Example:



**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.





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.





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.





#### 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.



**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  $6 \times 9$ .
- 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.

# Hundreds Board Challenge

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  $9 \times 6$ .
- 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.

Hundreds Board Challenge 2

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  $9 \times 3$ .
- 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?

#### 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?

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.

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.



Date\_\_\_\_



**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** 

AN	ISWER SHEET Mystery Numbers	
<b>Dii</b> Us	rections: Read all of the clues to determine the mystery number.	
Exc	ample:	<b>A</b>
l ai l ai l ai The Wł	m a number between 20 and 40. m an even number. m a multiple of 8. e sum of my digits is 5. hat number am 1?	
То	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. 🏹, 22, 2💢, 24, 🎉, 26, 💢, 28, 2💢, 30, 💢, 32, 3💢, 34, 🕉, 36, 37, 38, 39	
3.	Eliminate all numbers that are NOT multiples of 8. 2 <mark>%</mark> , 24, <mark>2%</mark> , 2 <mark>%</mark> , 3%, 32, 3%, 3%	
4.	Add the digits of the remaining numbers to determine the answer. 2+4= 6 and 3+2=5	
Thr ma	rough the process of elimination, I know that the mystery number is $32$ because itch for ALL clues.	eit is a
Try	, this one on your own:	
l ai l ai l ai The Wł	m a number between 10 and 30. m an odd number. m a multiple of 7. e sum of my digits is 3. nat number am 1?	
	21	

ons: Read all of the	o clubs to determine the m		
provided below ec	ach problem to show your	nystery number. Use the work. 5	?
n a number betwe n an odd number. n a multiple of 7. sum of my digits at number am I?	en 30 and 50. is 13.		6
49			
n a number betwe n an even number.	en 60 and 80.		
n a multiple of 8. sum of mu diaits	is 10.		
at number am l?			
64			
	n a number betwe n an odd number. n a multiple of 7. sum of my digits at number am 1? <u>49</u> n a number betwe n an even number n a multiple of 8. sum of my digits at number am 1? <u>64</u>	n a number between 30 and 50. n an odd number. n a multiple of 7. sum of my digits is 13. at number am 1? 49 49	n a number between 30 and 50. n a multiple of 7. esum of my digits is 13. at number am 1? 49 49 49

	Mystery Numbers 3 8							
<b>Directions:</b> Read all space provided belo	of the clues to determine the mystery number. Use the $\frac{7}{5}$							
l. I am a number b I am an even nu I am a multiple o The sum of my a What number an	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?							
110								
. I am a number b When you are co I am an odd num The sum of my a What number at	between 1 and 101. ounting by 25 (or counting the value of quarters) you say my name. nber. digits is 12. m l?							
2. I am a number b When you are co I am an odd num The sum of my a What number an	between 1 and 101. ounting by 25 (or counting the value of quarters) you say my name. nber. digits is 12. m l?							











Date\_

Name\_



#### 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					Date				
ANSWER SHEET Hundreds Board Challenge									
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	SHEET			-		Date			
he shad	ed area s	<b>Hund</b> pells the	<b>reds</b>	Boar	d Ch	allen	ge 🙎		
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			
Hundreds Board Challenge 3									
he shad <b>1</b>	ed area r 2	nakes a s	miley fac	се. 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\_\_\_\_\_

#### ANSWER SHEET 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
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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?

#### 21 rocks

Name\_\_\_\_\_

28 cookies

Date\_\_\_\_

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?

May

Date\_\_\_

Name \_\_\_\_\_

#### ANSWER SHEET 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?

15 students

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?

12 rooms

Name \_\_\_\_\_

Date\_\_\_\_\_

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?

\$1.45

4. Using problem number 3, determine how much money will be in Sasha's piggy bank after 10 weeks of savings.

\$7.75



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