

# Introducing Magic Squares

In a magic square, each row, column, and diagonal sums to the same number. Check to see whether these grids are magic squares.

1

2	2	1	5
1	2	3	6
3	2	1	6
6	6	5	5

Yes  No

2

3	2	7	12
8	4	0	12
1	6	6	13
12	12	13	13

Yes  No

3

15	14	7	36
4	12	20	36
17	10	9	36
36	36	36	36

Yes  No

Complete the magic squares.

4

8		3	18
	6		18
9	5	4	18
18	18	18	18

5

7		3	12
	4		12
5		1	12
12	12	12	12

6

4			21
	7		21
10	1	10	21
21	21	21	21



## Test Prep

7 Cedric has a quarter to buy pencils. Pencils cost 4¢ each, or 3 for 10¢. If Cedric buys 7 pencils, how much change will he receive?

- A. 1¢
- B. 3¢
- C. 9¢
- D. 11¢

# Adding Magic Squares

Add the magic squares.

1

2	1	3		8	4	6		10		
3	2	1	+	4	6	8	=		8	
1	3	2		6	8	4		7		

6
18
24

Complete the magic squares and then add them.

2

9		7		6		4				
5	7		+	4	6	8	=			
7	9	5		8	4					

21
18
39

3

	3	2		7		9				
	2	1	+		7		=			
2		3		5	9	7				

6
21
27



## Test Prep

- 4 What is the value of  $8 + (6 \div 2)$ ?      A. 7                      C. 11  
    B. 10                    D. 16

# Subtracting Magic Squares

Subtract the magic squares.

1

$8 - 2 = 6$

8	2	6	
3	3	1	3
4	1	3	2

15                      6                      9

2

13	8	8	
4	9	3	5
10	12	4	9

27                      15                      12

3

5	5	2	
9	9	4	
7	7	6	3

27                      12                      15



## Test Prep

4 Which fact is in the same fact family as  $72 \div 9 = \blacksquare$ ?

- A.  $9 \times \blacksquare = 72$
- B.  $72 \times 9 = \blacksquare$
- C.  $\blacksquare \div 72 = 9$
- D.  $9 \div \blacksquare = 72$

# Multiplying Magic Squares

Multiply each magic square by the given number.

1

8	1	6		16	2	
3	5	7	$\times 2 =$	6	10	
4	9	2				

2

5	0	7			
6	4	2	$\times 4 =$		8
1	8	3			

3

4	9	2			
3	5	7	$\times 1 =$		
8	1	6		8	

4

5	0	7			
6	4	2	$\times 6 =$		
1	8	3			

5

8	1	6			18
3	5	7	$\times 3 =$		
4	9	2			

6

6	7	2			
1	5	9	$\times 5 =$		
8	3	4			



## Test Prep

7 How many ways can you make 35¢ using only dimes, nickels, or quarters? Explain how you found your answer.




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# Dividing Magic Squares by Numbers

Divide each magic square by the given number.

1

40	5	30
15	25	35
20	45	10

 $\div 5 =$ 


2

54	63	18
9	45	81
72	27	36

 $\div 9 =$ 


3

24	10	20
		22
16		12

 $\div 2 =$ 

12		10
		11

4

	36	
	28	
40	20	24

 $\div 4 =$ 


5

	30	27
36		12
		33

 $\div 3 =$ 


6

30		40
55	45	
		60

 $\div 5 =$ 




## Test Prep

7 Sally bought 2 rulers for 15¢ each and 7 erasers for 3¢ each. How much did Sally spend? Explain.

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# Working Backward and Forward

Work backward to complete the magic squares.

1


 $\div 7 =$ 

5	10	3
4	6	8
9	2	7

2


 $\div 6 =$ 

4	9	8
11	7	3
6	5	10

3


 $\div 10 =$ 

11	1	15
13	9	5
3	17	7

4


 $\div 8 =$ 

2	7	6
9	5	1
4	3	8

5


 $\times 7 =$ 

28	63	14
21	35	49
56	7	42

6


 $\times 10 =$ 

50	0	70
60	40	20
10	80	30



## Test Prep

7 Shaina needs to leave for school in 25 minutes. At what time does she need to leave? Explain how you found your answer.



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