Name _____

1

Fill in the blanks.

a.

×	3	7
☐	21	☐
☐	9	21

b.

×	☐	5
6	24	☐
☐	12	15

c.

×	4	☐
9	36	45
☐	16	☐

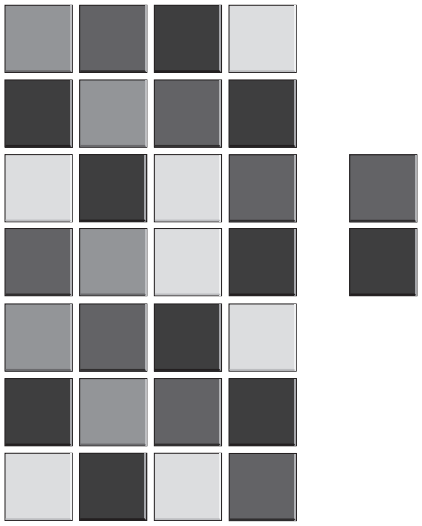
Name _____

Try This

Mr. Holsten wants to grow vegetables in 7 containers on his patio. He has a packet of 30 cucumber seeds, and he believes he can plant 4 seeds in each container without having any seeds left over. Is Mr. Holsten correct?

- Use Color Tiles.
- Build and draw a model to solve the problem.

Mr. Holsten is not correct.
He will have 2 seeds left over.



1. Jack is building an obstacle course for his hamster Fluffy. Each hurdle takes 5 blocks, and Jack has 24 blocks. If Jack builds as many hurdles as he can with the blocks, will he have any blocks left over?

If so, how many? _____

continued on the next page

Name _____

2. Jose is also building an obstacle course for his hamster. Each hurdle takes 7 blocks, and Jose has 35 blocks. If Jose builds as many hurdles as he can with the blocks, will he have any blocks left over?

If so, how many?_____

Solve the problem.

3. On June 3, the community pool will begin offering swimming lessons that will take place every 3 days. Circle the days Samantha can take swimming lessons. What does the pattern tell you about multiples?

_____

_____

June						
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					

continued on the next page

Name _____

4. Fill in the missing multiples.

Multiples of 4			40	44				60	

Multiples of 9		27	36					81	90

5. Which number does not belong? _____

Explain why. _____

3	6	10	12	15	18

6. Is 42 a multiple of 7?

Explain. _____

7. Is 48 a multiple of 9?

Explain. _____

8. Is 56 a multiple of 3?

Explain. _____

9. Is 72 a multiple of 6?

Explain. _____

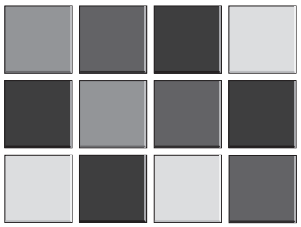
Name _____

Use Color Tiles to build the model. Use the model to complete the problem.

1. Kevin would like to share his 12 comic books equally between his 3 cousins. Tell how Kevin can share the comic books so that each cousin receives the same number.

_____

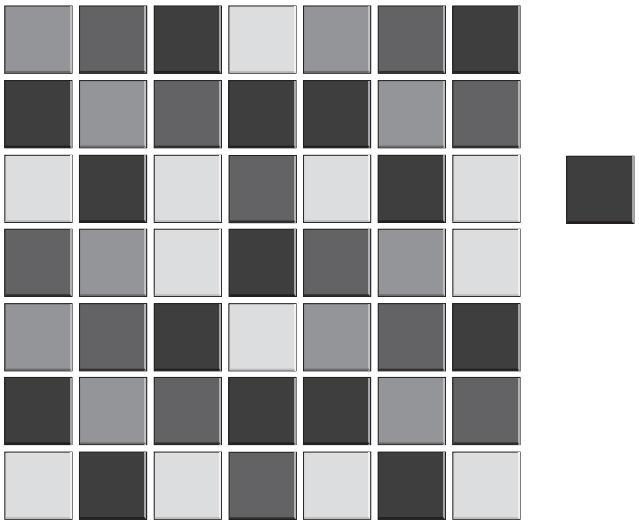
_____



2. Cunxin has a bag of 50 pens. He was told to give the same number of pens to each of the 7 fourth grade teachers. Can he divide all the pens equally among the 7 teachers? Why or why not?

_____

_____



continued on the next page

Name _____

Use Color Tiles. Build and draw a model to solve the problem.

3. Mr. Anders, the gymnastics teacher, is arranging 24 mats in the gym for a tumbling show. Can the mats be arranged in rows of 6 with no mats left over? If so, how many rows will there be? If not, why?

_____

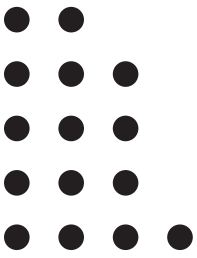
_____

How many more mats will Mr. Anders need if he adds 2 more rows? Show your work.

_____

Solve the problem.

4. Rhoda created this drawing to show that 15 is a multiple of 3.



Is Rhoda correct? Explain your thinking.

_____

_____

continued on the next page

Name _____

5. Write the first 5 multiples of 10.

_____

6. Is 32 a multiple of 3? Explain your answer.

_____

7. Is 25 a multiple of 2? Explain your answer.

_____

8. Is 64 a multiple of 4? Explain your answer.

_____

9. Is 63 a multiple of 7? Explain your answer.

_____

Name _____

2

12 is a multiple of 3. So is 21. If you add 12 and 21, you get a multiple of 3.

a. If you add any two multiples of 3, will you get a multiple of 3?

b. Explain why or why not.

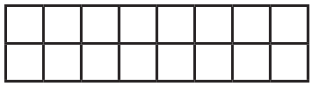
Name _____

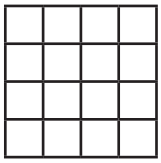
Try This

Joseph is creating a mural for the new town center using 16 paintings. He will arrange the paintings on a wall in rows and columns. What are the possible arrays Joseph can create to display the 16 paintings?

- Use Color Tiles to build models for the problem.
- Draw the models.
- Use the models to answer the question.

The possible arrays are
1 × 16, 2 × 8, 4 × 4, and the reverses 16 × 1 and 8 × 2.





1. Aisha is arranging prizes for the annual bake off competition on a table. She wants to organize the prizes in rows and columns so she can easily distribute them to the winners. What are the possible arrays Aisha can use to set up the 24 prizes?

continued on the next page

Name _____

2. Maria would like to use containers to organize 28 bracelets. How many different ways can Maria sort the bracelets so that each container has the same number of bracelets? Use what you know about factor pairs to help you complete the chart.

Number of containers	×	Number of bracelets in each container
	×	
	×	
	×	
	×	
	×	
	×	

List all the factor pairs for the number.

3. 45

_____

_____

4. 77

_____

_____

5. 52

_____

_____

6. 100

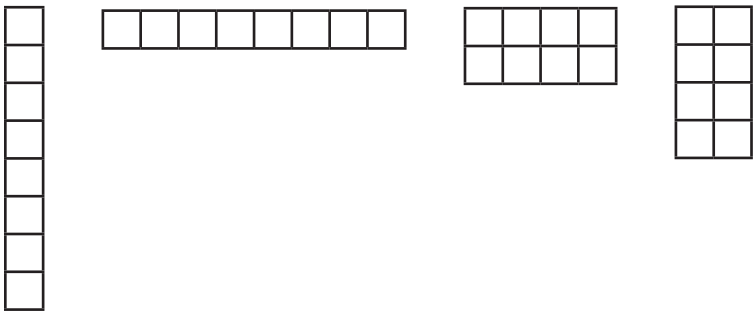
_____

_____

Name _____

Use Color Tiles to build the model. Use the model to complete the problem.

1. Lucy would like to organize 8 photos in rows and columns on her wall. How many different arrays of 8 photos are possible? Write all the factor pairs modeled by the arrays.



_____ arrays are possible.

The factor pairs are _____

Use Color Tiles to model the problem. Draw your model. Use it to complete the problem.

2. Sam wants to arrange 10 model cars into an array on a display table. What are all the possible arrays he could make? Write the factor pairs modeled by the arrays.

continued on the next page

Name _____

3. Mari wants to organize her 9 ceramic figurines in containers. How many different ways can she sort the figurines so that each container has the same number? Use what you know about factor pairs to help you complete the chart.

Number of containers	×	Number of figurines in each container
	×	
	×	
	×	
	×	

List all the factor pairs for the number.

4. 27

_____

_____

5. 32

_____

_____

6. 44

_____

_____

Name _____

3

15 is a multiple of 5. 4 is not a multiple of 5. If you add 15 and 4, you get 19, which is not a multiple of 5.

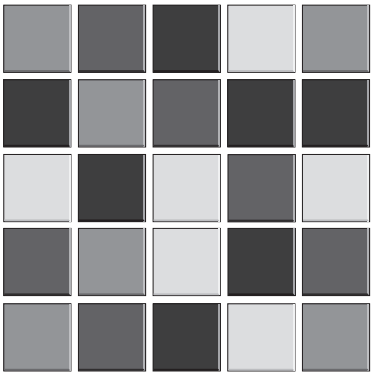
If you add a multiple of 5 to a non-multiple of 5, is the sum ever a multiple of 5?

Name _____

Try This

Destiny is creating a cookie display at her bakery. She wants to arrange 25 cookies in equal rows. She hopes she can make at least 2 rows with 2 or more cookies in each row. Can she? If so, tell all the ways. Is 25 prime or composite?

- Use Color Tiles to model the problem.
- Draw any models that support your answer.



Yes, there is one way Destiny can make at least 2 equal rows of 2 or more cookies. She can make 5 rows of 5 cookies, or 5 × 5.

So 25 is a composite number, because it has a factor (5) other than 1 and itself.

1. There are 19 chairs in an array. Can the array be 2 or more equal rows of at least 2 chairs? If so, tell all the ways. Is 19 prime or composite?

2. There are 21 paintings in an array on the wall. Can the array be 2 or more equal rows of at least 2 paintings? If so, tell all the ways. Is 21 prime or composite?

continued on the next page

Name _____

3. A garden has 15 plants in an array. Can the array be 2 or more equal rows of at least 2 plants? If so, tell all the ways. Is 15 prime or composite?

List all the factors for the number and tell whether the number is prime or composite.

4. 18

_____

_____

5. 35

_____

_____

6. 37

_____

_____

7. 24

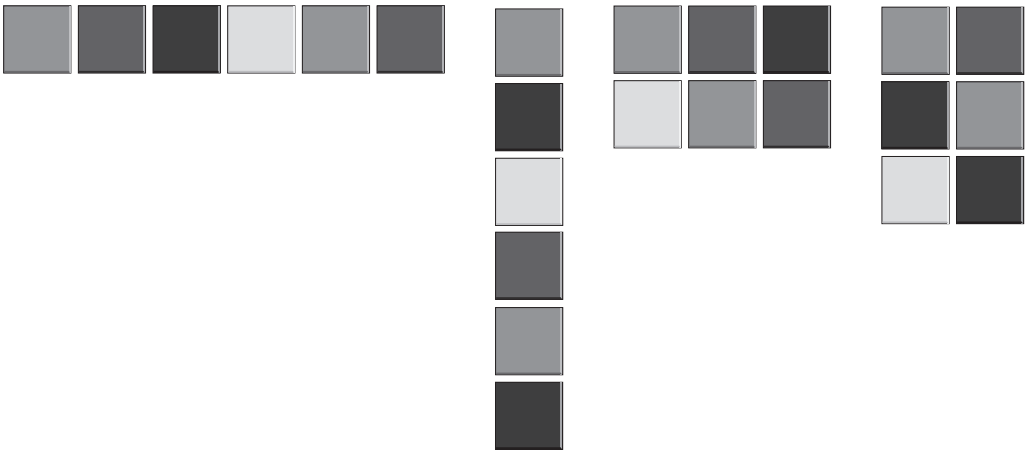
_____

_____

Name _____

Use Color Tiles to build the models. Use the models to complete the problem.

1. Mrs. Rodek would like to arrange 6 statues in equal rows. Can she make an arrangement of 2 or more equal rows having at least 2 statues in each row? If so, tell all the ways. Is 6 prime or composite?



Use Color Tiles to model the problem. Draw your model. Use it to complete the problem.

2. A gardener wants to plant 7 tomato plants in equal rows. Can he make an arrangement of 2 or more equal rows having at least 2 plants in each row? If so, tell all the ways. Is 7 prime or composite?

continued on the next page

Name _____

3. A king wants to display an array of 8 colorful flags. Can he make an array of 2 or more equal rows having at least 2 flags in each row? If so, tell all the ways. Is 8 prime or composite?

Complete the problem.

4. Is 23 prime or composite? Explain how you know.

_____

_____

5. Is 10 prime or composite? Explain how you know.

_____

_____

6. List all the factors for each number. Tell if the number is prime or composite.

Number	Factors	Prime or Composite?
17		
12		
26		
34		
2		

Name _____

4

Here is the start of a 3× table.

1	2	3	4	5	6	7	8	9	10	11	12

a. Continue the table up to 48.

b. List the multiples of 3 from 3 to 48. Write three true observations.

Name _____

Try This

- Model the pattern with Centimeter Cubes.
- Draw your model.
- Describe the model.

1. Create a number pattern that repeats.

Write the pattern using numbers.

_____

_____

Describe the rule for the pattern.

_____

_____

Describe the pattern another way.

_____

_____

Describe other features of the numbers in the pattern.

_____

_____

Describe the 20th term in your pattern.

_____

_____

continued on the next page

Name _____

2. Create a number pattern that grows.

Write the pattern using numbers.

_____

_____

Describe the rule for the pattern.

_____

_____

Describe the pattern another way.

_____

_____

Describe other features of the numbers in the pattern.

_____

_____

Describe the 20th term in your pattern.

_____

_____

continued on the next page

Name _____

3. Create any number pattern.

Write the pattern using numbers.

_____

_____

Describe the rule for the pattern.

_____

_____

Describe the pattern another way.

_____

_____

Describe other features of the numbers in the pattern.

_____

_____

Describe the 100^{th} term in your pattern.

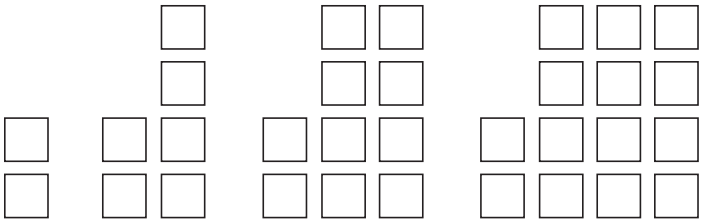
_____

_____

Name _____

Use Centimeter Cubes to build the model. Use the model to complete the problem.

1.



Write the first six terms of the pattern.

_____

What is the rule? What is the 10th term?

_____

What are two features of the numbers?

_____

_____

2. Build a model as follows: Place 5 cubes in the first term. Place 2 cubes in the second term. Place 5 cubes in the third term. Place 2 cubes in the fourth term.

Write the first six terms of the pattern.

_____

What is the rule? Tell the operations. What is the 10th term?

_____

What are two features of the numbers?

_____

_____

continued on the next page

Name _____

Use Centimeter Cubes to create the pattern. Draw your model. Describe the pattern.

3. Create a repeating pattern.

Write the first six terms of the pattern.

_____

What is the rule? What is the 10th term?

_____

What are two features of the numbers?

_____

4. Create a growing pattern.

Write the first six terms of the pattern.

_____

What is the rule? What is the 10th term?

_____

What are two features of the numbers?

_____