1. List all of the factors of the number.

21: _____

2. Select the numbers that have a factor of 6. Mark all that apply.

Ⓐ 12
Ⓑ 3
Ⓒ 42
Ⓓ 6
Ⓔ 48
Ⓕ 31

3. Marissa was decorating her room. She arranged 63 picture tiles on a wall in the shape of a rectangle. For 3a–3e, choose Yes or No to tell whether a possible arrangement of the picture tiles is shown.

3a.	7 rows of 9 tiles	○ Yes	○ No
3b.	22 rows of 6 tiles	○ Yes	○ No
3c.	21 rows of 3 tiles	○ Yes	○ No
3d.	63 rows of 1 tile	○ Yes	○ No
3e.	32 rows of 2 tiles	○ Yes	○ No

4. List all the factor pairs in the table.

Factors of 54	
_____ × _____ = _____	_____, _____
_____ × _____ = _____	_____, _____
_____ × _____ = _____	_____, _____
_____ × _____ = _____	_____, _____

GO ON

5. Classify the numbers. Some numbers may belong in more than one box.

45 48 81 84 99

Divisible by 3 and 9	Divisible by 5 and 9	Divisible by 2 and 6

6. Josh works in a balloon store. He will put 45 balloons into bunches. He must use the same number of balloons in each bunch. The number of balloons in each bunch must be greater than 1 and less than 10. How many balloons could be in each bunch?

_____ balloons

7. Miles has a train collection with 36 engines, 72 boxcars, and 18 cabooses. He wants to arrange the train cars in equal rows with only one type of train car in each row. How many can he put in each row? Mark all that apply.

(A) 12 (B) 6 (C) 4 (D) 3 (E) 2 (F) 1

8. The library is designing a book display with 20 fiction books, 28 biographies, and 40 non-fiction books. Each shelf will have only one type of book on it. Sheena says she can put 5 books on each shelf. She listed the common factors of 20, 28, and 40 below to support her reasoning.

20: 1, 2, 3, 4, 5, 7, 20

28: 1, 2, 4, 5, 14, 28

40: 1, 2, 4, 5, 8, 10, 20, 40

Is she correct? Explain your answer. If her reasoning is incorrect, explain how she should have found the answer.

GO ON

9. The number of books featured at the local library is shown in the table.

Books	
Type of Book	**Number of Books**
mystery	32
novel	16
non-fiction	12

Part A

The local library is hosting a book fair in August that features the mystery books. All authors discuss the same number of mystery books and each will discuss more than 1 mystery book. How many authors could be featured in the show?

_____

Part B

The library wants to display all the books on shelves in rows. Each row has the same number of books and the same type of books. How many books could be in each row? Explain how you found your answer.

10. Beverly was skip counting while jumping rope. She started to count by 9s. She said 9, 18, 27, 36, 45, and 54. What number will she say next?

_____

11. Jose wrote the number 36. If his rule is *add 6*, what is the fourth number in Jose's pattern? How can you check your answer?

GO ON

12. For numbers 12a–12e, select True or False for each statement.

12a.	The number 45 is a multiple of 9.	○ True	○ False
12b.	The number 6 is a multiple of 12.	○ True	○ False
12c.	The number 56 is a multiple of 8.	○ True	○ False
12d.	The number 4 is a factor of 8.	○ True	○ False
12e.	The number 36 is a factor of 9.	○ True	○ False

13. What multiple of 9 is also a factor of 9?

14. Marta uses 1 piece of paper and 1 piece of ribbon to make kites. The paper comes in packs of 3 pieces and the ribbon comes in packs of 4 pieces. What is the least number of kites Marta can make without any supplies left over?

_____ kites

15. A store in Roger's neighborhood sells boxes of pencils that have 6 pencils in each box. Roger bought several boxes of pencils at the store. Which could be the number of pencils he bought? Mark all that apply.

Ⓐ 9 Ⓑ 18 Ⓒ 20 Ⓓ 24 Ⓔ 34 Ⓕ 42

16. Choose the words that make the sentence true.

The number 12 is [prime / composite] because it has [exactly / more than] two factors.

GO ON

17. Gus wrote the following riddle: I am a number between 30 and 60. My ones digit is three less than my tens digit. I am a prime number.

Part A

What number does Gus' riddle describe? Explain.

Part B

Gus' friend Russ guessed that his riddle was about the number 47. Why can't 47 be the answer to Gus' riddle? Explain.

18. Classify the numbers as prime or composite.

31 42 89 93

Prime	Composite

19. Aidan makes 12 bracelets on Monday. He makes 8 more bracelets each day from Tuesday through Thursday. How many bracelets does Aidan have in all by the end of the day on Thursday?

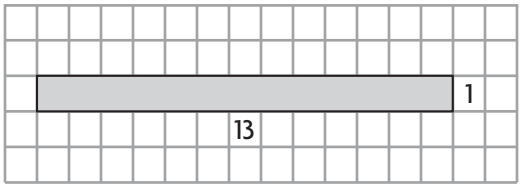
_____ bracelets

20. Use the rule to write the first five terms of the pattern.

Rule: Add 8, subtract 4 First term: 13

GO ON

21. Eric had 13 tiles to arrange in a rectangular design for the top of a box. He drew a model of the rectangles he could make with the 13 tiles.



Part A

How does Eric's drawing show that 13 is a prime number?

Part B

Suppose Eric used 12 tiles to make the rectangular design. How many different rectangles could he make with the 12 tiles? Write a list or draw a picture to show the number and dimensions of the rectangles he could make.

Part C

Eric's friend Dawn said that she could make a larger number of different designs with 15 tiles than with Eric's 13 tiles. Do you agree with Dawn? Explain.