

# 4<sup>th</sup> Grade Unit 1 Part 5: Factors & Multiples (Form A)

Name \_\_\_\_\_

Date \_\_\_\_\_

**Standards:**

**6.OA.4** determine multiples and factors for whole numbers 1-100

**7.OA.4** determine whether a given whole number in the range of 1-100 is prime or composite

1. List all the factor pairs for 18.

2. Use division to determine whether or not 6 is a factor of 362. Explain why or why not using a complete sentence.

3. What is the sum of the 4 prime numbers greater than 2 and less than 12?

4. List the first 7 multiples of 2 and 4 in the table below. How many multiples do these factors have in common? \_\_\_\_\_

2							
4							

What statement can you make about the multiples of 2, as compared to the multiples of 4?

5. Which list of numbers includes all the factors of 24?

- a. 1, 2, 3, 4, 24
- b. 2, 4, 6, 8, 12
- c. 1, 2, 3, 4, 6, 8, 12, 24
- d. You can't list all the factors of 24. There are too many factors.

6. Which set of numbers includes only multiples of 12?

- a. 12, 24, 36, 48, 60
- b. 1, 2, 3, 4, 6, 12
- c. 6, 12, 18, 24,
- d. 1, 12, 24, 48

**4<sup>th</sup> Grade Unit 1 Part 5: Factors & Multiples (Form A)**

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7. Which number is not a factor of 39?
- a. 1
  - b. 3
  - c. 9
  - d. 13

8. Which number is not a multiple of 7?
- a. 28
  - b. 37
  - c. 42
  - d. 84

9. Kyle ate 4 times as many pieces of pizza as his sister Jordyn. If Kyle ate 8 pieces of pizza, how many did Jordyn eat? Write an equation using a variable for the unknown number and draw a diagram to solve.

10. Jeremy told Jack that all prime numbers are odd. Jack disagrees. What reasoning might Jack use to prove that Jeremy is incorrect?

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11. Michael says that all even numbers between 10 and 20 are composite numbers. Is he correct? How do you know?

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12. Circle the three prime numbers.

2, 6, 23, 18, 17, 49

How can you prove that the numbers you circled are prime?

13. Circle the number that is a multiple of 6.

42, 32, 25, 56

## 4<sup>th</sup> Grade Unit 1 Part 5: Factors & Multiples (Form A)

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### CHALLENGE:

14. Mr. Jones discovered that Kroger sells hot dogs in packs of 10, but they sell buns in packs of 8. He wants to purchase the fewest number of hot dogs and buns, so that he has no hot dogs or buns left over. What is the smallest combination of 10-pack hot dogs and 8-pack buns that Mr. Jones could buy to have the same number of hot dogs and buns?

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15. Courtney is making bead necklaces. She has 24 green beads and 32 blue beads. What is the greatest number of identical necklaces she can make if she wants to use ***all of the beads***? How many of each bead will be in the necklace design? (Hint: Start by listing the factors of each number)

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16. Ms. Jones has 32 cookies to sell at the bake sale. She wants to sell them in packages of two or more cookies. She does not want more than 8 cookies in each set. How many different sets could she create and not have any cookies left over? How many cookies would be in each of these sets?

## 4<sup>th</sup> Grade Unit 1 Part 5: Factors & Multiples (Form A)

Name \_\_\_\_\_

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1. **Answer Key**

- 1 x 18
- 2 x 9
- 3 x 6

2.  $362 \div 6 = 60 \text{ r. } 2$   
6 is not a factor of 362 because there is a remainder.

3.  $3 + 5 + 7 + 11 = 26$

4. How many multiples do these factors have in common? 3

2	(4)	6	(8)	10	(12)	14
(4)	(8)	(12)	16	20	24	28

Possible statements:

- Every multiple of 4 is also a multiple of two, but only half of the multiples of two are also multiples of 4.
- All multiples of 2 and 4 are even.

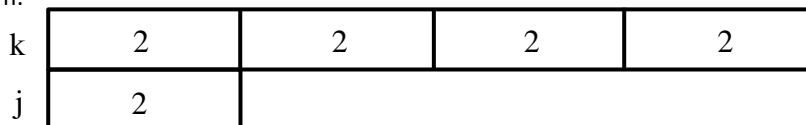
5. a. 1, 2, 3, 4, 24  
b. 2, 4, 6, 8, 12  
**c. 1, 2, 3, 4, 6, 8, 12, 24**  
d. You can't list all the factors of 24. There are too many factors.

6. **a. 12, 24, 36, 48, 60**  
b. 1, 2, 3, 4, 6, 12  
c. 6, 12, 18, 24,  
d. 1, 12, 24, 48

7. a. 1  
b. 3  
**c. 9**  
d. 13

8. a. 28  
**b. 37**  
c. 42  
d. 84

9.  $k = 4 \times j$  Possible diagram:  
 $8 = 4 \times j$   
 $j = 2$



10. 2 is a prime number, but it is even.	11. Yes, even numbers between 10 and 20 are composite because they each have 2 as a factor, which means they have at least 4 factors.
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12. (2), 6, (23), 18, (17), 49

They don't have any other factors except 1 and itself.

13. (42) 32, 25, 56

*CHALLENGE: Teachers may use challenge items to differentiate instruction; students may be asked to complete all three problems or choose one problem. Problems may also be saved for guided math instruction with varying levels of scaffolding.*

14. Hot dogs: 10, 20, 30, 40, 50  
Buns: 8, 16, 24, 32, 40  
Mr. Jones needs to buy 4 packs of hot dogs and 5 packs of buns.

15. 24: 1, 2, 3, 4, 6, (8), 12, 24  
32: 1, 2, 4, (8), 16, 32  
Courtney can make 8 necklaces. Each necklace will have 3 green beads and 4 blue beads.

16.  $2 \times 16$ —16 packages with 2 cookies in each  
 $4 \times 8$ —4 packages with 8 in each OR 8 packages with 4 in each

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