Unit 5 · Factors, Multiples, and Number Patterns Cheat Sheet

Unit 5 focus: factors, multiples, and prime and composite numbers

1 Big Idea

Factors divide a number evenly. Multiples are what you get when you count by a number.

2 Important Vocabulary

factor	A whole number that divides another whole number with no remainder.	4 is a factor of 24
factor pair	Two whole numbers that multiply to make a number.	3 and 8 are a factor pair of 24
multiple	The product of a number and a whole number.	Multiples of 6: 6, 12, 18, 24
prime number	A whole number greater than 1 with exactly two factors, 1 and itself.	7 and 13 are prime

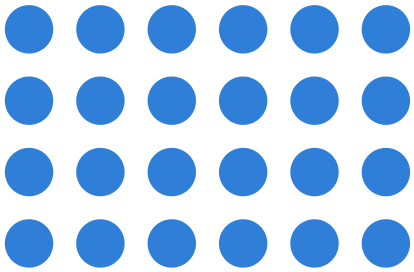
3 How It Works

Find all the factors of 24.

Example: Test 1, 2, 3, … and write pairs.
1 × 24 1 and 24
2 × 12 and 3 × 8 2, 12, 3, 8
4 × 6 4 and 6; 5 does not work

Answer: 1, 2, 3, 4, 6, 8, 12, 24

4 Visual Model



A 4 by 6 array shows that 4 and 6 are a factor pair of 24.

5 ★ Remember This · Watch Out!

★ Remember this

- Prime: exactly two factors. Composite: more than two.
- 2 is the only even prime number. 1 is neither prime nor composite.

⚠ Watch out!

- **Factors are few, multiples go on forever:** factors of 6: 1, 2, 3, 6; multiples of 6: 6, 12, 18, …
- **Odd does not mean prime:** 9 = 3 × 3

6 Try It!

1. Is 39 prime or composite?
   Answer: (13 × 3) əʇısodɯoɔ
2. What is the seventh multiple of 9?
   Answer: 63

Answers are printed upside down. Turn the page to check!

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More practice: number patterns and shape patterns

1 Big Idea

A pattern follows a rule. Patterns often have features the rule does not mention, such as odd and even terms.

2 Important Vocabulary

pattern	Numbers or shapes that follow a rule.	3, 7, 11, 15
rule	Tells how to get from one term to the next.	add 4
term	One number or shape in a pattern.	In 3, 7, 11, the second term is 7
even number	A whole number that can be split into two equal groups. It ends in 0, 2, 4, 6 or 8.	18

3 How It Works

Start at 1. Rule: add 3. Write five terms and describe them.

Example: 1, 4, 7, 10, 13
Odd or even? odd, even, odd, even, odd
Why? adding 3 (an odd number) switches odd and even

Answer: The terms alternate odd and even.

4 Visual Model



Figure 1 Figure 2 Figure 3

The figures have 3, 4 and 5 tiles. Rule: add 1. Figure 10 will have 12 tiles.

5 ★ Remember This · Watch Out!

★ Remember this

- Find the rule by comparing neighbors.
- For a repeating shape pattern, divide the position by the length of the repeating part and use the remainder.

⚠ Watch out!

- **Check more than two terms:** 2, 4, 8 is not “add 2”
- **The first term counts:** the rule is used one time fewer than the term number

6 Try It!

1. Rule: add 6. Start at 5. What is the fourth term?
   Answer: 23
2. Circle, star, star repeats. What is the tenth shape?
   Answer: ɐlɔɹıɔ

Answers are printed upside down. Turn the page to check!