Merit Tutoring

Year 4 Mathematics

Odd & Even Numbers Workshop

Worksheet 3: Identification & Classification

Name: _____ **Date:** _____

Section 1: Fluency - Sorting Numbers

Identify odd and even numbers by looking at their last digit.

Remember: Even numbers end in 0, 2, 4, 6, or 8. Odd numbers end in 1, 3, 5, 7, or 9.

1. Circle the even numbers and underline the odd numbers:

2,456 7,831 9,024 3,567 5,000

2. Circle the even numbers and underline the odd numbers:

12,345 8,762 4,009 6,418 1,293

3. Which of these numbers are even? Write them in the space below:

534 1,287 4,562 9,015 7,778

Answer: _____

4. Which of these numbers are odd? Write them in the space below:

8,426 3,951 6,240 5,673 2,000

Answer: _____

5. Look at this pattern box. Complete the missing labels:

24	37	56	?	?
Even	?	?	Odd	Even

Answers: _____

6. True or False: All numbers ending in 5 are odd numbers.

Answer: _____

7. Is the number 10,000 odd or even? Explain how you know.

Answer: _____

8. Circle the largest even number in this list:

8,765 8,932 8,401 8,998 8,777

Evenly Amazing!

Why do even numbers make great friends?

Because they always come in pairs!

Section 2: Reasoning - The Rule of Last Digits

Understand why the last digit determines if a number is odd or even.

9. Explain why 4,532 is an even number even though it has the digits 5 and 3 in it.

Answer: _____

_____

10. Look at the number 7,896. Is it odd or even? How do you know?

Answer: _____

_____

11. Amy says, ”The number 1,234 is odd because it starts with 1.” Is Amy correct? Explain your thinking.

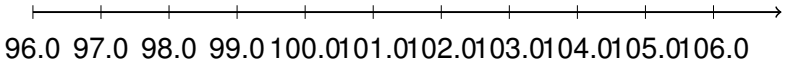
Answer: _____

_____

12. What is the smallest 4-digit even number you can make using the digits 3, 5, 7, and 8?

Answer: _____

13. Look at this number line:



How many even numbers are shown on this number line?

Answer: _____

14. Circle the number that does NOT belong in this group. Explain why.

2,468	3,570	5,984	7,623	9,106

Answer: _____

_____

15. Create your own 5-digit odd number where all the digits are different:

Answer: _____

All alone!

Oddly Awesome!

Why was the odd number feeling lonely?

Because it couldn't find a pair to match!

Section 3: Problem Solving - Sequences

Apply your knowledge to number patterns and sequences.

16. Write the next five even numbers starting from 1,098:

Answer: _____

17. Write the next five odd numbers starting from 2,345:

Answer: _____

18. Fill in the missing numbers in this pattern:

124	126	?	?	?

Answer: _____

19. Complete this odd number pattern:

567, _____, 571, _____, 575, _____

20. A library has books numbered from 4,500 to 4,510. How many of these book numbers are even?

Answer: _____

21. Write all the even numbers between 8,992 and 9,002:

Answer: _____

22. If you count by 2s starting from 1,000, will you say the number 1,235? Why or why not?

Answer: _____

_____

23. Create a sequence of five consecutive odd numbers where the middle number is 4,567:

Answer: _____

Pattern Master!

Why did the number pattern go to school?

To learn how to count on its friends!

Brilliant work! You're an odd and even expert!

Answer Key

Worksheet 3: Identification & Classification

Section 1: Fluency - Sorting Numbers

1. Even numbers (circled): **2,456, 9,024, 5,000**
Odd numbers (underlined): **7,831, 3,567**
2. Even numbers (circled): **8,762, 6,418**
Odd numbers (underlined): **12,345, 4,009, 1,293**
3. Answer: **534, 4,562, 7,778**
4. Answer: **3,951, 5,673**
5. Answers: - Box 2: **Odd** - Box 3: **Even** - Box 4: **Any odd number (e.g., 41, 83, 95)** - Box 5: **Any even number (e.g., 42, 84, 96)**
6. Answer: **True** (Numbers ending in 5 are always odd)
7. Answer: **Even**. Explanation: The last digit is 0, which is an even digit.
8. Answer: **8,998** (largest even number in the list)

Section 2: Reasoning - The Rule of Last Digits

9. Answer: **4,532 is even because the last digit is 2, which is an even number. Only the last digit matters when determining if a number is odd or even.**
10. Answer: **Even**. The last digit is 6, which is even.
11. Answer: **No, Amy is not correct. The number 1,234 is EVEN because the last digit is 4. The first digit doesn't determine if a number is odd or even.**
12. Answer: **3,578** (smallest 4-digit even number using those digits)
13. Answer: **6 even numbers** (96, 98, 100, 102, 104, 106)
14. Answer: **7,623** does not belong because it is odd. All the others are even.

15. Answer: **Accept any 5-digit odd number with different digits (e.g., 12,345, 67,891, 24,563)**

Section 3: Problem Solving - Sequences

16. Answer: **1,100, 1,102, 1,104, 1,106, 1,108**
17. Answer: **2,347, 2,349, 2,351, 2,353, 2,355**
18. Answer: **128, 130, 132**
19. Answer: **569, 573, 577**
20. Answer: **6 even numbers** (4,500, 4,502, 4,504, 4,506, 4,508, 4,510)
21. Answer: **8,992, 8,994, 8,996, 8,998, 9,000, 9,002**
22. Answer: **No, because 1,235 is an odd number. When you count by 2s starting from an even number (1,000), you only land on even numbers.**
23. Answer: **4,563, 4,565, 4,567, 4,569, 4,571**

Year 4 Mathematics

Odd & Even Numbers Workshop

Worksheet 4: Addition & Subtraction Properties

Name: _____ **Date:** _____

Section 1: Fluency - Sums and Differences

Predict and verify if answers will be odd or even.

Remember the Rules:

- Even + Even = Even
- Odd + Odd = Even
- Even + Odd = Odd

1. Is

$$45 + 32$$

going to be Odd or Even? Solve it to check.

Prediction: _____

Calculation and Answer: _____

2. Is

$$68 + 24$$

going to be Odd or Even? Solve it to check.

Prediction: _____

Calculation and Answer: _____

3. Is

$$57 + 19$$

going to be Odd or Even? Solve it to check.

Prediction: _____

Calculation and Answer: _____

4. Calculate:

$$88 - 35 = ?$$

Is the answer odd or even?

Answer: _____

5. Calculate:

$$124 - 56 = ?$$

Is the answer odd or even?

Answer: _____

6. Fill in the table:

Calculation	Prediction	Answer	Odd/Even?
$42 + 18$			
$73 + 29$			
$65 - 21$			

7. True or False: When you add two odd numbers, the answer is always odd.

Answer: _____

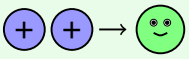
8. Circle the sums that will give you an EVEN answer:

$$23 + 45$$

$$34 + 56$$

$$67 + 89$$

$$72 + 28$$



Addition Ace!

Why do even numbers love addition?

Because they always stick together in the answer!

Section 2: Visual Modeling - Pairing Up

Use visual models to understand odd and even numbers.

9. Look at this collection of 13 stars. Draw circles around pairs of stars.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Is there a remainder? _____

Is 13 odd or even? _____

10. Look at this collection of 16 hearts. Draw circles around pairs.

♡ ♡ ♡ ♡ ♡ ♡ ♡ ♡
♡ ♡ ♡ ♡ ♡ ♡ ♡ ♡

Is there a remainder? _____

Is 16 odd or even? _____

11. Draw 11 circles below and then pair them up:

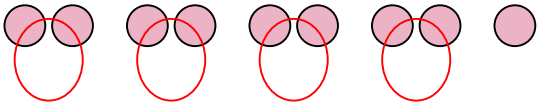
Is 11 odd or even? _____

12. A teacher has 24 students. She wants to pair them up for a partner activity. Will everyone have a partner? Why?

Answer: _____

_____

13. Look at this visual model:



How many circles are there? _____

Is this number odd or even? _____

14. If you have 18 pencils and you group them in pairs, how many pairs will you have?

Answer: _____

15. Draw a picture to show that 14 is an even number:

Pairing Pro!

Why did the even number win the dancing competition?

Because it always had a perfect partner!

Section 3: Challenge - Investigation

Explore patterns and prove your mathematical thinking.

16. If you add three odd numbers together, is the answer always odd or even? Provide two examples to prove your thinking.

Example 1: _____

Example 2: _____

Conclusion: _____

17. Investigate: What happens when you add four even numbers? Will the answer be odd or even? Give an example.

Answer: _____

_____

18. Complete this investigation table:

Operation	Example	Result Type
Even $\times$ Even	$4 \times 6 = ?$	
Odd $\times$ Odd	$3 \times 5 = ?$	
Even $\times$ Odd	$4 \times 5 = ?$	

19. Ben says: "If you subtract an even number from an odd number, you always get an odd answer." Test Ben's statement with two examples. Is he correct?

Answer: _____

_____

20. A pattern starts with the number 5 and you add 3 each time. Will all the numbers in the pattern be odd? Explain.

Answer: _____

_____

21. Challenge: Can you add an even number and an odd number and get an even answer? Explain your thinking.

Answer: _____

_____

22. Create your own odd and even rule and test it with two examples:

My Rule: _____

Test 1: _____

Test 2: _____

23. Super Challenge: If you add five consecutive numbers starting from 10, will the answer be odd or even? Calculate to find out.

Answer: _____

Mathematical Mastermind!

Why did the mathematician love odd and even numbers?
Because they always followed the rules... even when they were odd!

Outstanding investigation work! You're a true mathematician!

Answer Key

Worksheet 4: Addition & Subtraction Properties

Section 1: Fluency - Sums and Differences

1. Prediction: **Odd** (Odd + Even = Odd)
Calculation:

$$45 + 32 = 77$$

(Odd)

2. Prediction: **Even** (Even + Even = Even)
Calculation:

$$68 + 24 = 92$$

(Even)

3. Prediction: **Even** (Odd + Odd = Even)
Calculation:

$$57 + 19 = 76$$

(Even)

4. Answer:

$$88 - 35 = 53$$

(Odd)

5. Answer:

$$124 - 56 = 68$$

(Even)

6. Table answers:

- $42 + 18$: Prediction = **Even**, Answer = **60**, Type = **Even**

- $73 + 29$

  : Prediction = **Even**, Answer = **102**, Type = **Even**

- $65 - 21$

  : Prediction = **Even**, Answer = **44**, Type = **Even**

7. Answer: **False**. When you add two odd numbers, the answer is always EVEN.

8. Even answers:

$34 + 56$ **(= 90),**

$67 + 89$ **(= 156),**

$72 + 28$ **(= 100)**

Section 2: Visual Modeling - Pairing Up

9. Is there a remainder? **Yes** (1 star left over)

Is 13 odd or even? **Odd**

10. Is there a remainder? **No**

Is 16 odd or even? **Even**

11. Is 11 odd or even? **Odd** (Student should draw 11 circles with 5 pairs and 1 left over)

12. Answer: **Yes, everyone will have a partner because 24 is an even number. It can be divided into 12 pairs with no remainder.**

13. How many circles? **9**

Is this number odd or even? **Odd**

14. Answer: **9 pairs** (

$$18 \div 2 = 9$$

)

15. Accept any visual representation showing 14 objects arranged in 7 pairs with no remainder.

Section 3: Challenge - Investigation

16. Answer: **The answer is always ODD**

Examples:

- $3 + 5 + 7 = 15$

  (Odd)

- $1 + 9 + 11 = 21$

  (Odd)

17. Answer: **The answer will always be EVEN. Example:**

$$2 + 4 + 6 + 8 = 20$$

(Even)

18. Table answers:

- Even $\times$ Even:

  $$4 \times 6 = 24$$

  (Even)

- Odd $\times$ Odd:

  $$3 \times 5 = 15$$

  (Odd)

- Even $\times$ Odd:

  $$4 \times 5 = 20$$

(Even)

19. Answer: **Yes, Ben is correct.**
Examples:

- $$45 - 12 = 33$$

  (Odd)

- $$67 - 24 = 43$$

  (Odd)

20. Answer: **Yes, all numbers will be odd because we start with an odd number (5) and add an odd number (3) each time. Odd + Odd = Even, but we're adding to odd numbers, creating: 5, 8, 11, 14... Wait, this creates alternating! Actually: 5 (odd) + 3 (odd) = 8 (even), 8 (even) + 3 (odd) = 11 (odd), 11 (odd) + 3 (odd) = 14 (even). The pattern alternates between odd and even.**

21. Answer: **No, you cannot. Even + Odd always equals Odd. This is a mathematical rule.**

22. Accept any reasonable rule with valid examples (e.g., "Even - Odd = Odd")

23. Answer:

$$10 + 11 + 12 + 13 + 14 = 60$$

(Even)

Fantastic Achievement!

You've mastered odd and even numbers!

Keep exploring the wonderful world of mathematics!

