

keep scrolling to get
a sneak peek!

Short one-page practice
worksheets built to reinforce
sequence and series skills. Each
one targets one topic at a time,
so your students get focused,
low-pressure practice, and you
get a quick read on who's ready
to move on.

SEQUENCES AND SERIES

Quick Practice Worksheets

ER KEY

GEOMETRIC SERIES P

um of each geometric series.

nd $r = 2$.

2. $\sum_{i=1}^8 5(3)^i - 1$

16400

SERIES & SUMMATION NOT

Name: _____

Directions: Find the sum of each geometric series.

1. S_6 where $a_1 = 3$ and $r = 2$.

2. $\sum_{i=1}^8 5(3)^i - 1$

Directions: Determine if the series is convergent or divergent, find the sum.

4. $5 + 5/3 + 5/9 + 5/27 + \dots$

5. $2 + 6 + 18 + 54 + \dots$

Divergent since $r = 3$

No sum

ARITHMETIC SE

1. Determine if the sequence is arithmetic. If it is, identify the common difference.

50, 42, 34, 26, 18, ...

This is an arithmetic sequence with a common difference $d = -8$.

3. Write the rule for the n th term of the sequence. Then find a_{15} .

12, 7, 2, -3, -8, ...

$a_1 = 12$, $d = -5$

Rule: $a_n = 12 + (n-1)(-5)$

$a_{15} = 64$

5. Write the rule for the n th term of the arithmetic sequence given two terms, then find the first 5 terms.

6. V



Print & Go Practice. Answer Key Included

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why do you need this?



Short & Focused: Each worksheet targets one skill, so there's no overwhelm.

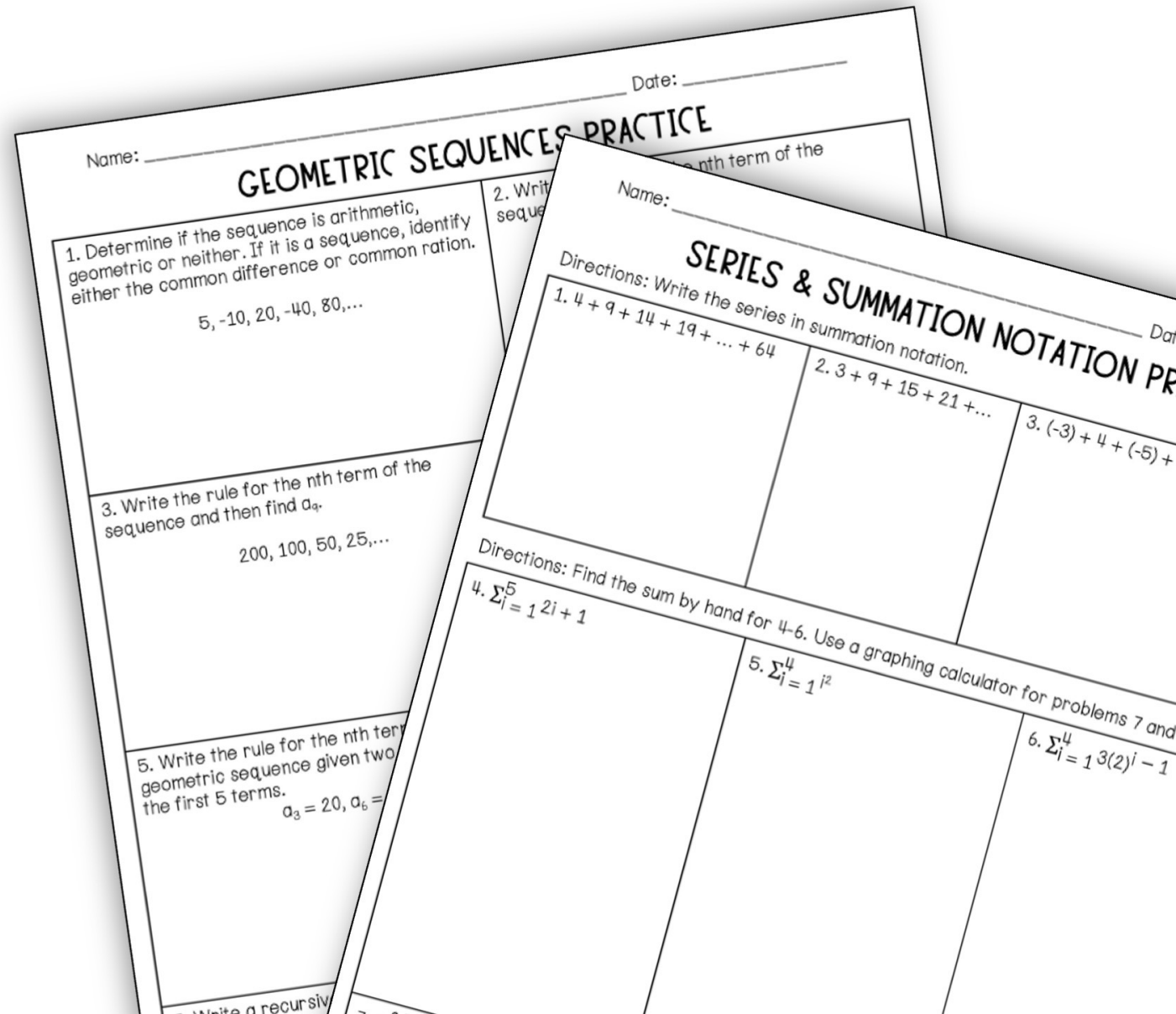


No Prep: Ready to print the moment you need them.

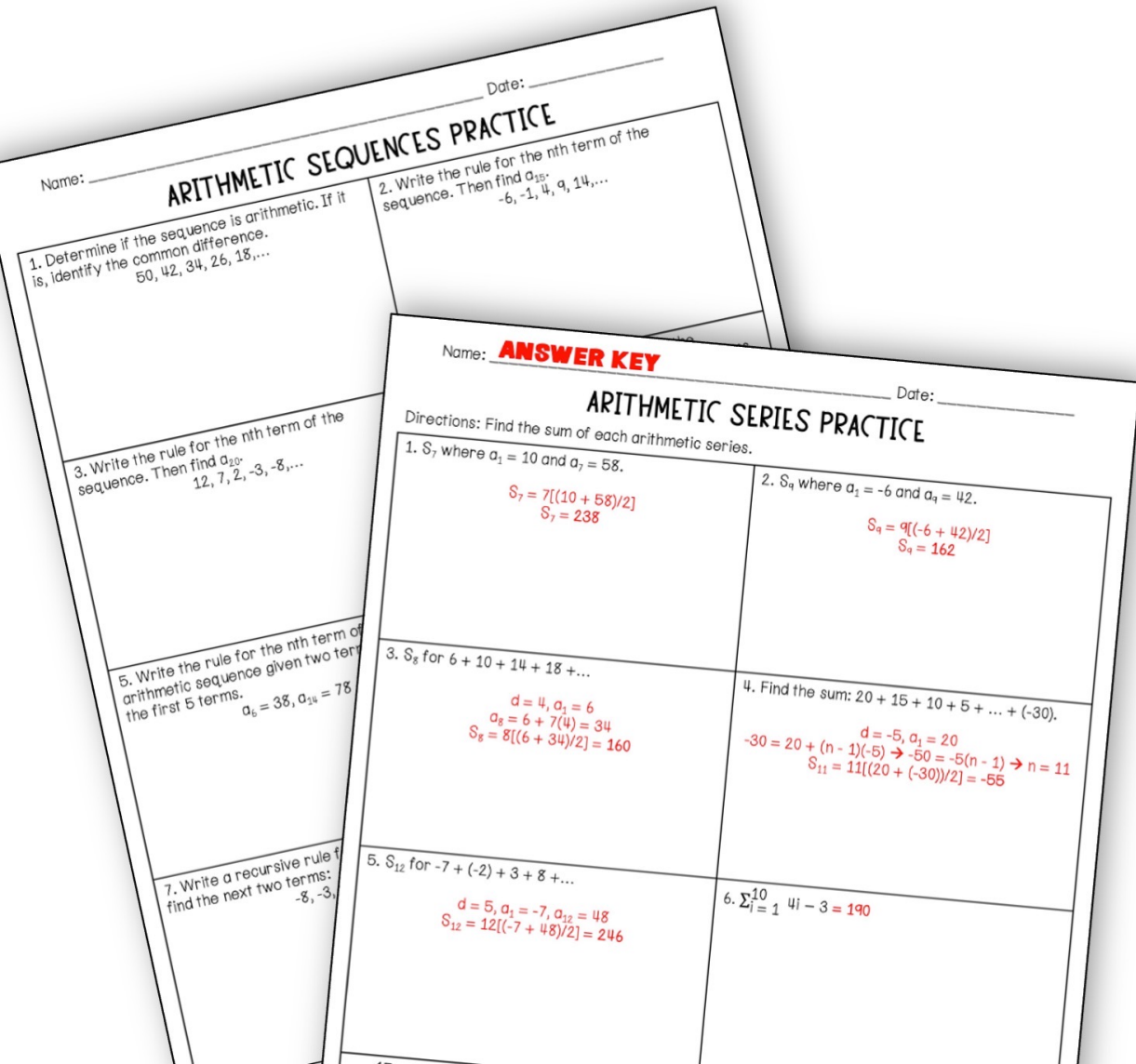


Flexible Use: Great for independent practice, a station, or a quick check after notes.

Sequences and Series Skills



Sequences & Series Practice Worksheets *includes:*



✓ 6 one pager worksheets

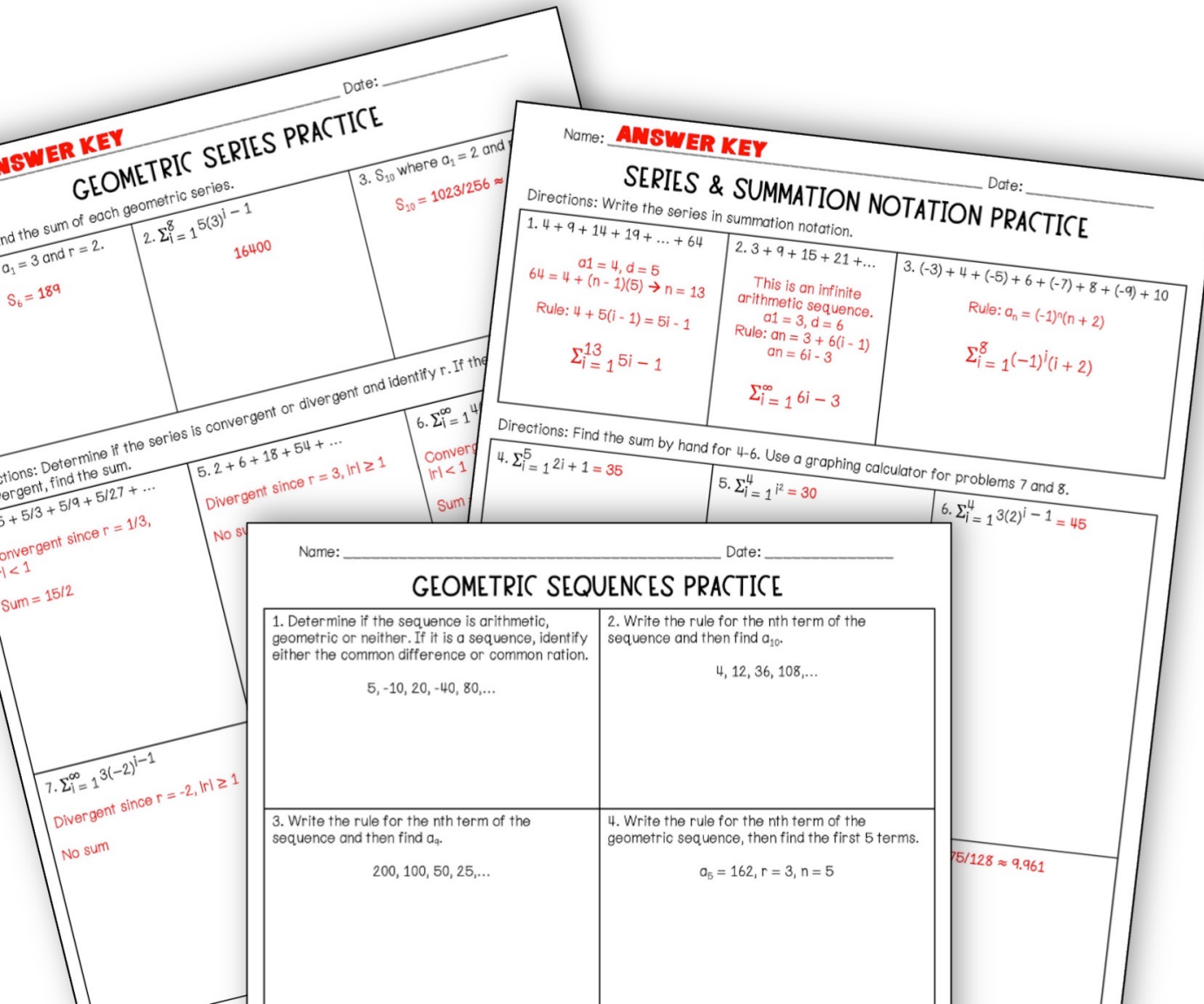
✓ Answer key for each

✓ Printable PDF format

how to use these resources

Use these worksheets right after teaching each topic to check for understanding, or throughout the unit as independent practice, a station, or a quick review day activity.

They are perfect for sup plans too!



Sequences Basics Practice Worksheet

Students use their knowledge of sequence basics to write rules and find the next terms in the sequence.

Two overlapping worksheets titled "SEQUENCES BASICS PRACTICE". The top worksheet is the "ANSWER KEY" version, showing solutions to the problems on the bottom worksheet. The bottom worksheet contains problems 1 through 8, and the top worksheet shows the corresponding answers in red.

Bottom Worksheet (Practice):

Name: _____ Date: _____

Directions: Complete each problem as indicated.

1. Write the first 4 terms of the sequence:
 $a_n = 3n - 5$

2. Write the first 4 terms of the sequence:
 $a_n = n^2 - 2$

3. Write an explicit rule for the n th term of the sequence. What are the next 3 terms?
 $2, 5, 8, 11, 14, \dots$

4. Write an explicit rule for the n th term of the sequence. What are the next 3 terms?
 $3, 9, 27, 81, \dots$

5. Write the first 5 terms of the recursive sequence:
 $a_1 = 4, a_n = a_{n-1} + 3$

6. Write the first 5 terms of the recursive sequence:
 $f(0) = 3, f(n) = 2f(n-1) - 1$

7. Write a recursive rule for the sequence: $5, 15, 45, 135, 405, \dots$

8. Write a recursive rule for the n th term of the sequence: $5, 15, 45, 135, 405, \dots$

Top Worksheet (Answer Key):

Name: **ANSWER KEY** Date: _____

Directions: Complete each problem as indicated.

1. Write the first 4 terms of the sequence:
 $a_n = 3n - 5$
-2, 1, 4, 7

2. Write the first 4 terms of the sequence:
 $a_n = n^2 - 2$
-1, 2, 7, 14

3. Write an explicit rule for the n th term of the sequence. What are the next 3 terms?
 $2, 5, 8, 11, 14, \dots$
 **$a_n = 2 + 3(n - 1)$
 $a_n = 3n - 1$
17, 20, 23**

4. Write an explicit rule for the n th term of the sequence. What are the next 3 terms?
 $3, 9, 27, 81, \dots$
 **$a_n = 3^n$
243, 729, 2187**

5. Write the first 5 terms of the recursive sequence:
 $a_1 = 4, a_n = a_{n-1} + 3$
4, 7, 10, 13, 16

6. Write the first 5 terms of the recursive sequence:
 $f(0) = 3, f(n) = 2f(n-1) - 1$
3, 5, 9, 17, 33

7. Write a recursive rule for the sequence: $5, 15, 45, 135, 405, \dots$
 **$a_1 = 5$
 $a_n = 3a_{n-1}$**

8. Write a recursive rule for the n th term of the sequence: $5, 15, 45, 135, 405, \dots$
 $a_1 = 25$

Arithmetic Sequences Practice Worksheet

Students will determine if a sequence is arithmetic, find the common difference, write rules, and find terms.

Name: _____ Date: _____

ARITHMETIC SEQUENCES PRACTICE

1. Determine if the sequence is arithmetic. If it is, identify the common difference.
50, 42, 34, 26, 18,...

2. Write the rule for the nth term of the sequence. Then find a_{15} .
-6, -1, 4, 9, 14,...

3. Write the rule for the nth term of the sequence. Then find a_{20} .
12, 7, 2, -3, -8,...

5. Write the rule for the nth term of the arithmetic sequence given two terms, then find the first 5 terms.
 $a_5 = 38, a_{15} = 78$

7. Write a recursive rule for the sequence, then find the next two terms:
-8, -3, 2, 7,...

Name: _____ Date: _____
ANSWER KEY

ARITHMETIC SEQUENCES PRACTICE

1. Determine if the sequence is arithmetic. If it is, identify the common difference.
50, 42, 34, 26, 18,...

This is an arithmetic sequence with a common difference $d = -8$.

2. Write the rule for the nth term of the sequence. Then find a_{15} .
-6, -1, 4, 9, 14,...

**$a_1 = -6, d = 5$
Rule: $a_n = -6 + (n-1)(5)$
 $a_{15} = 64$**

3. Write the rule for the nth term of the sequence. Then find a_{20} .
12, 7, 2, -3, -8,...

**$a_1 = 12, d = -5$
Rule: $a_n = 12 + (n-1)(-5)$
 $a_{15} = 64$**

4. Write the rule for the nth term of the arithmetic sequence, then find the first 5 terms.
 $a_{18} = -40, d = 3$

**$a_{18} = a_1 + (18-1)(3)$
 $-40 = a_1 + 51$
 $a_1 = -91$
Rule: $a_n = -91 + (n-1)(3)$
First 5 terms: -91, -88, -85, -82, -79**

5. Write the rule for the nth term of the arithmetic sequence given two terms, then find the first 5 terms.
 $a_5 = 38, a_{15} = 78$

**$38 = a_1 + 5d$ and $78 = a_1 + 15d$
Rule: $a_n = 22 + (n-1)(6)$
First 5 terms: 13, 19, 25, 31, 37**

6. Write the rule for the nth term of the arithmetic sequence given two terms, then find the first 5 terms.
 $a_5 = -20, a_{15} = -62$

**$-20 = a_1 + 7d$ and $-62 = a_1 + 14d$
Rule: $a_n = 22 + (n-1)(-6)$
First 5 terms: 22, 16, 10, 4, -2**

7. Write a recursive rule for the sequence, then find the next two terms:
-8, -3, 2, 7,...

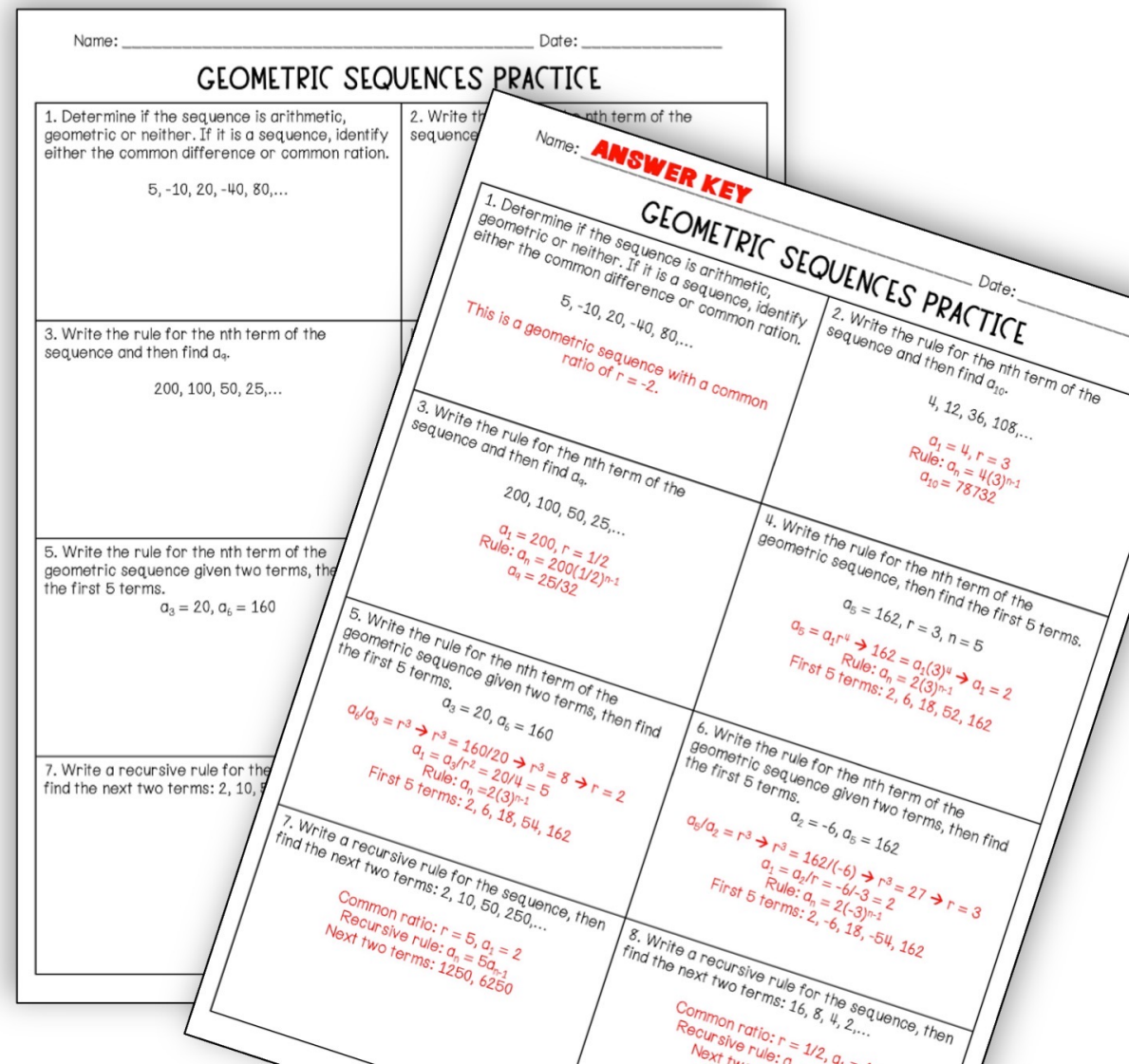
**$a_1 = -8, d = 5$
Recursive Rule: $a_n = a_{n-1} + 5$
Next two terms: 12, 17**

8. Write a recursive rule for the sequence, then find the next two terms:
30, 22, 14, 6, -2,...

**$a_1 = 30, d = -8$
Recursive Rule: $a_n = a_{n-1} - 8$
Next two terms: -10, -18**

Geometric Sequences Practice Worksheet

Students will determine if a sequence is geometric, find the common ratio, write rules, and find terms.



Series & Summation Notation Practice Worksheet

Students write a given series into summation notation and find the sum by hand and using a graphing calculator.

Name: _____ Date: _____

SERIES & SUMMATION NOTATION PRACTICE

Directions: Write the series in summation notation.

1. $4 + 9 + 14 + 19 + \dots + 64$ 2. $3 + 9 + 15 + 21 + \dots$ 3. $(-3) + 4 + (-5) + 6 + (-7) + 8 + (-9) + 10$

Directions: Find the sum by hand for 4-6. Use a graphing calculator for problems 7 and 8.

4. $\sum_{i=1}^5 2i + 1$

5. $\sum_{i=1}^4 i^2$

7. $\sum_{i=1}^{20} 3i - 4$

Name: _____ Date: _____
ANSWER KEY

SERIES & SUMMATION NOTATION PRACTICE

Directions: Write the series in summation notation.

1. $4 + 9 + 14 + 19 + \dots + 64$

$a_1 = 4, d = 5$
 $64 = 4 + (n-1)(5) \rightarrow n = 13$

Rule: $4 + 5(i-1) = 5i - 1$

$\sum_{i=1}^{13} 5i - 1$

2. $3 + 9 + 15 + 21 + \dots$

This is an infinite arithmetic sequence.

$a_1 = 3, d = 6$
Rule: $a_n = 3 + 6(i-1)$

$a_n = 6i - 3$
 $\sum_{i=1}^{\infty} 6i - 3$

3. $(-3) + 4 + (-5) + 6 + (-7) + 8 + (-9) + 10$

Rule: $a_n = (-1)^n(n+2)$

$\sum_{i=1}^8 (-1)^i(i+2)$

Directions: Find the sum by hand for 4-6. Use a graphing calculator for problems 7 and 8.

4. $\sum_{i=1}^5 2i + 1 = 35$

5. $\sum_{i=1}^4 i^2 = 30$

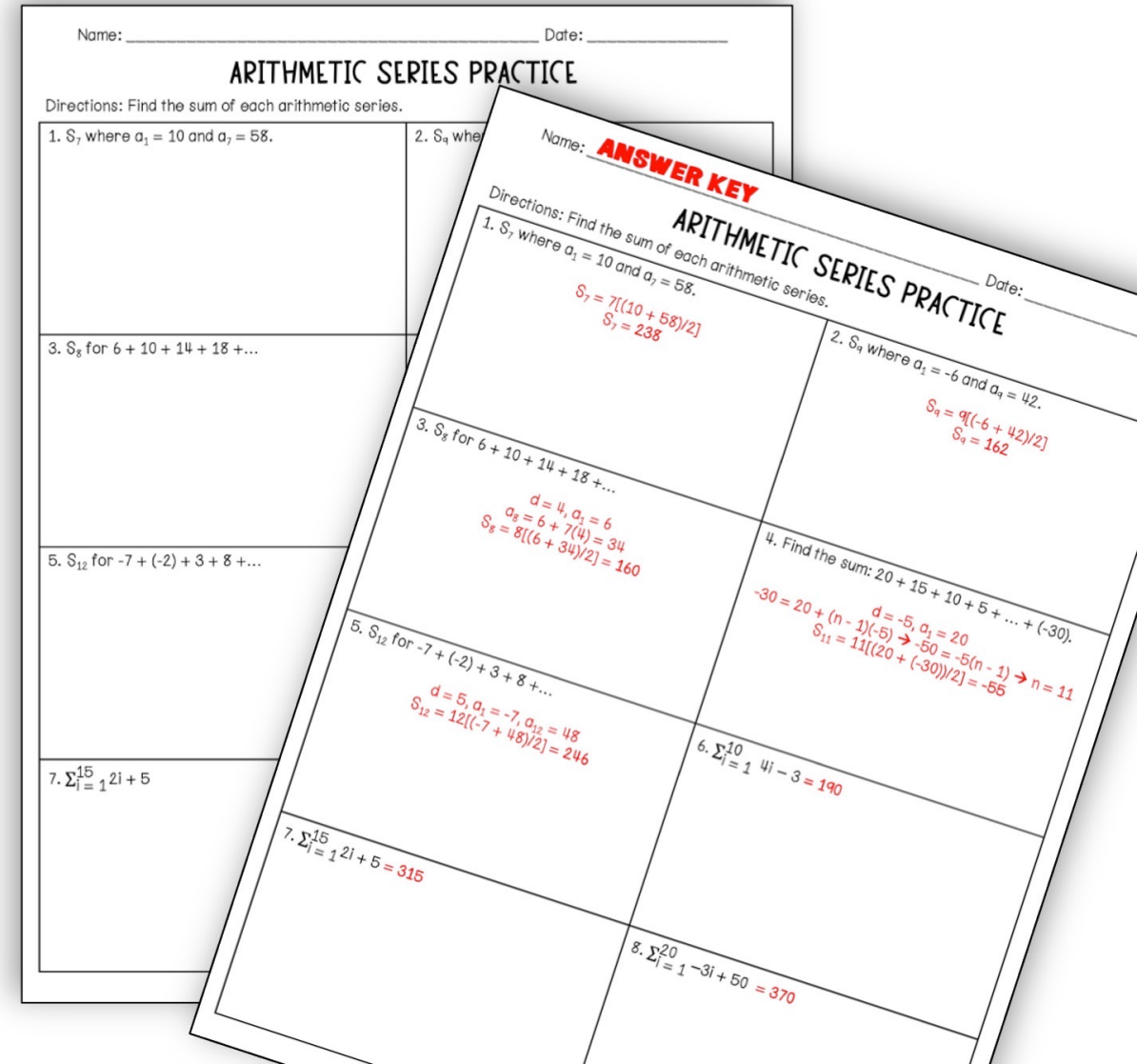
6. $\sum_{i=1}^4 3(2)^i - 1 = 45$

7. $\sum_{i=1}^{20} 3i - 4 = 550$

8. $\sum_{i=1}^8 5(1/2)^i - 1 = 1275/128 \approx 9.961$

Arithmetic Series Practice Worksheet

Students will find the sum of each arithmetic series given either two terms, the sequence, or summation notation.



Geometric Series Practice Worksheet

Students will find the sum of each geometric series given either two terms, the sequence, or summation notation.

Name: _____ Date: _____

GEOMETRIC SERIES PRACTICE

Directions: Find the sum of each geometric series.

1. S_6 where $a_1 = 3$ and $r = 2$.	2. $\sum_{i=1}^8 5(3)^i - 1$	3. S_{10} where $a_1 = 2$ and $r = 1/2$.
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Directions: Determine if the series is convergent or divergent. If convergent, find the sum.

4. $5 + 5/3 + 5/9 + 5/27 + \dots$	5. $2 + 6 + 18 + 54 + \dots$
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Directions: Determine if the series is convergent or divergent and identify r . If the series is convergent, find the sum.

4. $5 + 5/3 + 5/9 + 5/27 + \dots$ Convergent since $r = 1/3$, $r < 1$ Sum = $15/2$	5. $2 + 6 + 18 + 54 + \dots$ Divergent since $r = 3$, $r \geq 1$ No sum	6. $\sum_{i=1}^{\infty} 4(1/5)^{i-1}$ Convergent since $r = 1/5$, $r < 1$ Sum = 5
7. $\sum_{i=1}^{\infty} 3(-2)^{i-1}$ Divergent since $r = -2$, $r \geq 1$ No sum	8. $\sum_{i=1}^{\infty} 7(2/5)^{i-1}$ Convergent since $r = 2/5$, $r < 1$ Sum = $35/3$	

ANSWER KEY

1. $S_6 = 189$

2. $\sum_{i=1}^8 5(3)^i - 1 = 16400$

3. $S_{10} = 1023/256 \approx 3.996$

Sequences & Series Quick Practice Worksheets

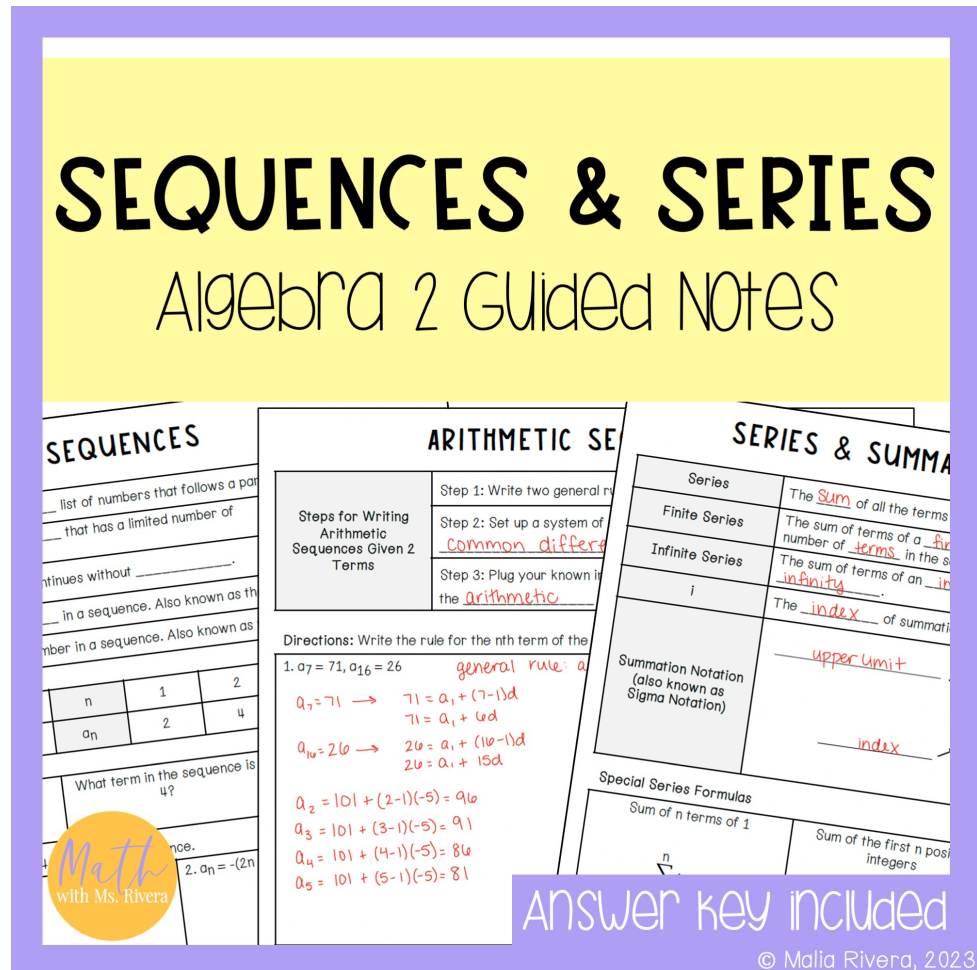
standards covered:

CCSS: HSA-SSE.B.4, HSF-IF.A.2, HSF-IF.A.3, HSF-BF.A.2

TEKs: P.5.A, P.5.B, P.5.C, P.5.D, P.5.E

VA SOLs: F.All.5

Need the notes to go with this?



These practice worksheets are built to follow the **Sequences & Series Guided Notes**.

Grab the full notes bundle to teach the lesson before assigning these practice worksheets! Click on the image to check it out.



hey there!

My name is Malia and I'm passionate about making learning and practicing math fun. I love creating engaging math resources for my students and I hope your students enjoy this activity too!

let's connect!



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