June 2026

Dear 5th Grade Families,

The incoming 6th-grade students are expected to read at least **two** books over the summer. Students are encouraged to read additional books as well! The first assigned summer reading book for the Rising OLL 6th Grade students is titled, **The Mark of the Thief** by Jennifer Nielsen. The second assigned book is of your choosing. You may choose any book that meets the following criteria:

- A book that is your reading level or above (reach out to Ms. M. if you want your lexile level)
- You can choose one regular novel, or two graphic novels

School Library Journal says:

"A fantastical alternate history set in ancient Rome. Nicolas Calva and his sister are slaves in the mines outside of Rome. When Nic is forced to retrieve treasure from Julius Caesar's cave, he assumes he will die. But inside the cave he finds a bulla, a magical amulet thought to have given Caesar great power and takes it for himself. Suddenly, Nic is the most wanted fugitive in Rome. The emperor and a powerful general are after the amulet and they will kill Nic to get it. His only help is Aurelia, a plebian girl who is searching for her own family. With no one to trust and nowhere to hide, the protagonist must decide how he is going to save his sister and get out with his life. He doesn't want the bulla or the responsibility of the magic it contains, but if the magical object gets into the wrong hands, Rome will be at war and Nic will be at the center of it all. This genre mash-up of history, fantasy, and action/adventure is fast-paced and explores themes such as class struggles, familial ties, and the immorality of slavery. Readers will have lots to digest as they quickly flip through the pages to see how Nic will escape his enemies to become a free man.—Kimberly Garnick Giarratano, Rockaway Township Public Library, NJ"(Amazon.com)

The Mark of the Thief is available at the Seattle Public Library and all bookstores.

Each student must complete the writing assignment listed below:

Writing Assignment:

Write a friendly letter to me, Ms. M., about the following:

1. **The Mark of the Thief**
    a. Tell me about the **settings** of the book: time and place (make sure to include all the important settings)

b. Tell me about the **main character,** Nic. What character traits did you admire in him (give specific examples from the book, including PAGE #'S)? What character traits did you not admire (give specific examples from the book, including PAGE #'S)? Give reasons why you felt this way about Nic.
c. What did you learn about this time period in history? What more do you want to learn?
d. Would you recommend other 6th grade students read this book? Why or why not? Make sure to give specific reasons.

2. What was the second book(s) you chose to read over the summer? Did you like it and why? Please summarize the story.
3. Tell me about one fun thing you did this summer.

Requirements for this paper are:

- This should be **typed and double-spaced**.
- You should write at least **4-6 paragraphs**.
- Make sure you include the **page numbers** in your paper for the "evidence" to support your answers about **The Mark of the Thief**.
- This should be in a **friendly letter format**.
- Have someone **proofread** your paper before you turn it in.
- This paper will be due on the first day of school (you can turn it in earlier if you want). You can either turn this in printed out or on Google Classroom.
- Please join Ms. M.'s 2026-27 Google Classroom. Your Google Classroom code is: p6phtg4t

If you enjoyed The Mark of the Thief, you might love the other two books in the series: Rise of the Wolf & Wrath of the Storm.

I hope you have a wonderful summer. Please contact me via e-mail, mmcdonald@ollseattle.org, with any questions about the attached information.

READ, READ, READ, READ, READ, READ, READ, READ, READ!!!

Ms. M.

Item due the first day of school:

_____ *Letter to Ms. M.*

SUMMER LEARNING PACKET

INCOMING 6TH GRADE

Summer Math

9 WEEKS · NO CALCULATOR · 50–60 MIN / WEEK



9 WEEKS

HOW TO USE THIS PACKET

Each week has two parts. Aim for 50–60 minutes total spread across a few days. If you hit 60 minutes, circle where you stopped — you're done for the week. Each week, always start at the beginning of that week's section, not where you left off the week before.

PACING TARGET

29 problems per week. Part 1 is 15 problems (~25–30 min). Part 2 is 14 problems + an optional challenge (~25–30 min).

FOR PARENTS & GUARDIANS

Please support your student in working through this packet independently. **No calculators for any problem.** Packets will be collected in the fall and reviewed for completion.

STUDENT NAME _____ GRADE ENTERING _____ DATE RECEIVED _____

> **NOTEBOOK REMINDER**
>
> If you need extra space to show your work, use a notebook. Keep your work organized — label each page with the **date**, **week number**, and **problem number**. Bring your notebook *and* your completed packet on the first day of school.

Week 1 of 9

Place value & whole number operations

WEEK 1 OF 9

Name: _____ Date completed: _____

> **No calculators this summer.** Work by hand — that's where the learning happens. If you hit **60 minutes**, circle where you stopped and put the packet away. You're done for the week.

Part 1 *~25–30 minutes · 15 problems*

WARM-UP (5 problems)

1. Write the value of the underlined digit: 4,<u>7</u>83

   Answer: _____

2. Write the value of the underlined digit: <u>3</u>06,512

   Answer: _____

3. Write 400,000 + 60,000 + 500 + 9 in standard form.

   Answer: _____

4. Order from least to greatest: 45,901 45,190 45,910

   Answer: _____ < _____ < _____

   Answer: _____

5. Round 3,847,205 to the nearest ten-thousand.

   Answer: _____

CORE PRACTICE (7 problems)

6. 38,417 + 24,685 = _____

   Answer: _____

7. 100,000 − 47,362 = _____

   Answer: _____

8. 583 × 47 = _____

   Answer: _____

9. 4,968 ÷ 6 = _____

   Answer: _____

10. Estimate the product of 612 × 89 by rounding each number to the nearest ten. Estimate: _____

    Answer: _____

(11) A number divided by 8 gives a quotient of 934 with a remainder of 5. What is the original number?

Answer: _____

(12) 999,999 + 1 = _____ What place value changed the most?

Answer: _____

WORD PROBLEMS (3 problems)

(13) A school collected 12,840 cans over 3 weeks. Week 1: 4,215; Week 2: 5,078. How many in Week 3?

Show your work:

Answer: _____

(14) A concert venue has 248 rows with 36 seats each. First estimate, then find the exact number of seats.

Show your work:

Estimate: _____ Exact: _____

(15) Three cities raised funds: City A $48,375; City B $31,908; City C twice as much as City B. What was the total?

Show your work:

Answer: _____

⏱ **At 60 minutes:** circle the last problem you completed and put the packet away. You're done for the week!

Part 2 *~25–30 minutes · 14 problems + optional challenge*

PUSHING FURTHER (6 problems)

These problems require more reasoning. Show all steps.

(16) What is the value of the 4 in 4,302,715? How many times greater is it than the value of the 4 in 34,902?

(17) Find two numbers with a product close to 20,000 and a sum less than 300. Show your work.

(18) Is 72,436 closer to 72,000 or 73,000? How do you know?

(19) A warehouse ships 27 full groups of 144 boxes plus 89 extra boxes. How many boxes total? If each weighs 8 pounds, what was the total weight?

(20) Write a number with a 6 in the hundred-thousands place, a 0 in the ten-thousands place, and greater than 4,000,000.

(21) A factory produces 1,350 items per day. How many items in 28 days? How many full weeks is that?

MULTI-STEP WORD PROBLEMS (3 problems)

(22) A school store starts with 2,500 pencils. September: sells 648. October: sells 712. November: receives 1,000 more. How many pencils at end of November?

Show your work:

Answer: _____

(23) A stadium has 312 sections with 48 seats each. On game day 75% of seats are filled. How many people attended? How many seats were empty?

Show your work:

Attended: _____ Empty seats: _____

(24) Two numbers have a GCF of 12. Their sum is 60. What could the two numbers be? Give two possible pairs.

Show your work:

Pair 1: _____ Pair 2: _____

SPIRAL REVIEW (5 problems)

↻ **Spiral Review — Week 5th grade**

(25) What is the area of a rectangle 24 cm long and 17 cm wide?

Answer: _____

↻ **Spiral Review — Week 5th grade**

(26) Write $\frac{7}{4}$ as a mixed number and as a decimal.

Answer: _____

↻ Spiral Review — Week 5th grade

(27) A bag holds 3.75 pounds. If you buy 4 bags, how many pounds total?

Answer: _____

↻ Spiral Review — Week 5th grade

(28) Find the mean of: 12, 18, 9, 15, 21.

Answer: _____

↻ Spiral Review — Week 5th grade

(29) A shape has 4 equal sides and 4 right angles. Name it. If one side is 13 cm, what is the perimeter?

Answer: _____

★ CHALLENGE — OPTIONAL

Using only the digits 1, 2, 3, and 4 (each used exactly once), create two 2-digit numbers whose **product** is as large as possible, then as small as possible. Explain your strategy.

Largest: _____ × _____ = _____ Smallest: _____ × _____ = _____

WEEKLY REFLECTION

What felt hardest this week? What felt easy or satisfying?

Parent/guardian sign-off: _____ Date: _____

Week 2 of 9

Fraction operations — all four operations

WEEK 2 OF 9

Name: _____ Date completed: _____

> **No calculators this summer.** Work by hand — that's where the learning happens. If you hit **60 minutes**, circle where you stopped and put the packet away. You're done for the week.

Part 1 *~25–30 minutes · 15 problems*

WARM-UP (5 problems)

1. $\frac{2}{5} + \frac{1}{5} =$ _____
   Answer: _____
2. $\frac{7}{8} - \frac{3}{8} =$ _____
   Answer: _____
3. $\frac{1}{2} + \frac{1}{4} =$ _____
   Answer: _____
4. $\frac{3}{4} \times \frac{8}{9} =$ _____
   Answer: _____
5. $\frac{3}{4} \div \frac{1}{2} =$ _____
   Answer: _____

CORE PRACTICE (7 problems)

6. $1\frac{1}{3} + 2\frac{1}{6} =$ _____
   Answer: _____
7. $3\frac{3}{4} - 1\frac{1}{2} =$ _____
   Answer: _____
8. $2\frac{1}{2} \times 1\frac{1}{3} =$ _____
   Answer: _____
9. $2\frac{1}{4} \div \frac{3}{4} =$ _____
   Answer: _____
10. How many $\frac{2}{3}$-cup servings are in 4 cups?
    Answer: _____

(11) Is $\frac{4}{5} \times \frac{3}{4}$ greater than or less than $\frac{4}{5}$? Explain without calculating.

Answer: _____

(12) Order from least to greatest: $\frac{2}{3}$ $\frac{3}{4}$ $\frac{5}{8}$ $\frac{7}{12}$

Answer: _____

WORD PROBLEMS (3 problems)

(13) Maya ran $\frac{3}{4}$ mile on Monday and $\frac{2}{3}$ mile on Wednesday. Total? How much farther on Monday?

Show your work:

Total: _____ Difference: _____

(14) A recipe makes $2\frac{1}{2}$ dozen cookies. If you make $1\frac{1}{2}$ times the recipe, how many dozens? How many individual cookies?

Show your work:

Dozens: _____ Cookies: _____

(15) A bolt of ribbon is $15\frac{3}{4}$ yards. A seamstress uses $\frac{2}{3}$ for one project and $\frac{1}{4}$ of the original bolt for another. How many yards are left?

Show your work:

Answer: _____

⏱ **At 60 minutes:** circle the last problem you completed and put the packet away. You're done for the week!

Part 2 *~25–30 minutes · 14 problems + optional challenge*

PUSHING FURTHER (6 problems)

These problems require more reasoning. Show all steps.

(16) $\frac{5}{6} + \frac{7}{9} - \frac{1}{3} =$ _____

(17) What fraction must be added to $\frac{5}{8}$ to make 2?

(18) $4 - 2\frac{3}{5} =$ _____ *(Hint: rewrite 4 as a mixed number first.)*

(19) If $\frac{3}{4}$ of a number is 18, what is $\frac{5}{6}$ of that same number?

(20) A car travels at 55 $\frac{1}{2}$ mph. How far in 2 $\frac{1}{2}$ hours? In 45 minutes?

(21) A classroom has $\frac{1}{3}$ of its students in a reading group. If there are 8 students in the group, how many total students are in the class?

MULTI-STEP WORD PROBLEMS (3 problems)

(22) Three friends paint a fence. Jada: $\frac{1}{3}$, Marcus: $\frac{5}{12}$, Priya: the rest. What fraction did Priya paint? If the fence is 36 feet, how many feet did each paint?

Show your work:

Priya's fraction: _____ Jada ft: _____ Marcus ft: _____ Priya ft: _____

(23) A tank is $\frac{3}{4}$ full and holds 48 gallons when full. If $\frac{1}{3}$ of the water is used, how many gallons remain?

Show your work:

Answer: _____

(24) A trail is 8 $\frac{1}{2}$ miles. A hiker completes 3 $\frac{2}{3}$ miles before lunch and 2 $\frac{3}{4}$ miles after lunch. How many miles are left?

Show your work:

Answer: _____

SPIRAL REVIEW (5 problems)

↻ Spiral Review — Week 1

(25) 583 × 47 = _____

Answer: _____

↻ Spiral Review — Week 1

(26) 100,000 − 47,362 = _____

Answer: _____

↻ Spiral Review — Week 1

(27) 999,999 + 1 = _____ What place changed most?

Answer: _____

↻ Spiral Review — Week 5th grade

(28) Write $\frac{7}{4}$ as a mixed number and decimal.

Answer: _____

↻ Spiral Review — Week 5th grade

(29) Find the mean of: 12, 18, 9, 15, 21.

Answer: _____

★ CHALLENGE — OPTIONAL

You have three fractions: $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$. Using each exactly once with + or − between them, what is the largest possible result? The smallest? List all combinations.

Largest: _____ Smallest: _____

WEEKLY REFLECTION

What felt hardest this week? What felt easy or satisfying?

Parent/guardian sign-off: _____ Date: _____

Week 3 of 9

Decimal operations

WEEK 3 OF 9

Name: _____ Date completed: _____

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Part 1 *~25–30 minutes · 15 problems*

WARM-UP (5 problems)

1. 3.4 + 2.85 = _____
   Answer: _____
2. 7.2 − 4.65 = _____
   Answer: _____
3. 5.4 × 3 = _____
   Answer: _____
4. 14.4 ÷ 4 = _____
   Answer: _____
5. Round 4.8362 to the nearest hundredth.
   Answer: _____

CORE PRACTICE (7 problems)

6. 2.7 × 1.4 = _____
   Answer: _____
7. 6.3 ÷ 0.9 = _____
   Answer: _____
8. 0.6 × 0.8 = _____
   Answer: _____
9. 10 − 3.742 = _____
   Answer: _____
10. Write $\frac{3}{8}$ as a decimal.
    Answer: _____
11. Which is greater: 0.6 × 0.6 or 0.6 + 0.6? Show why.

Answer: _____

(12) Place the decimal point correctly: 4.7 × 3.2 = 1504 Answer: _____

Answer: _____

WORD PROBLEMS (3 problems)

(13) A runner's 4 lap times: 1.35, 1.42, 1.38, 1.51 minutes. Total time? Average lap time?

Show your work:

Total: _____ Average: _____

(14) Gasoline costs $3.79 per gallon. Cost to fill a 12.5-gallon tank?

Show your work:

Answer: _____

(15) A store sells apples for $1.35 each and bananas for $0.49 each. Sam buys 4 apples and 6 bananas and pays with a $10 bill. How much change?

Show your work:

Answer: _____

⏱ **At 60 minutes:** circle the last problem you completed and put the packet away. You're done for the week!

Part 2 *~25–30 minutes · 14 problems + optional challenge*

PUSHING FURTHER (6 problems)

These problems require more reasoning. Show all steps.

(16) 12.6 × 0.05 = _____

(17) 3.6 ÷ 0.12 = _____

(18) A decimal rounds to 4.5 to the nearest tenth. What is the smallest it could be? The largest?

(19) 0.001 × 1,000 = _____ Explain the pattern.

(20) A number has 3 decimal places. Multiplied by 1,000 it becomes 47.2. What is the number? What is $\frac{3}{8}$ of it?

(21) Three friends split a $54.75 bill equally plus an 18% tip of $9.86. How much does each person pay?

MULTI-STEP WORD PROBLEMS (3 problems)

(22) A car travels 32.4 miles on 1.8 gallons of gas. How many miles per gallon? At that rate, how far on 12.5 gallons?

Show your work:

MPG: _____ Distance: _____

(23) A car rental: $29.99 per day plus $0.15 per mile. Write an expression for d days and m miles. What is the cost for 3 days and 120 miles?

Show your work:

Expression: _____ Cost: _____

(24) Three friends split a restaurant bill of $67.50 equally plus an 18% tip of $12.15. How much does each person pay total?

Show your work:

Answer: _____

SPIRAL REVIEW (5 problems)

↻ **Spiral Review — Week 2**

(25) $1\frac{1}{3} + 2\frac{1}{6} =$ _____

Answer: _____

↻ **Spiral Review — Week 2**

(26) $2\frac{1}{2} \times 1\frac{1}{3} =$ _____

Answer: _____

↻ **Spiral Review — Week 2**

(27) $3\frac{3}{4} - 1\frac{1}{2} =$ _____

Answer: _____

↻ Spiral Review — Week 1

(28) 583 × 47 = _____

Answer: _____

↻ Spiral Review — Week 1

(29) 100,000 − 47,362 = _____

Answer: _____

★ CHALLENGE — OPTIONAL

A number has 3 decimal places. When you multiply it by 1,000 you get 47.2. What is the number? Now find $\frac{3}{8}$ of that number. Show all work.

Answer: _____

WEEKLY REFLECTION

What felt hardest this week? What felt easy or satisfying?

Parent/guardian sign-off: _____ Date: _____

Week 4 of 9

Multiplication & division review

WEEK 4 OF 9

Name: _____ Date completed: _____

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Part 1 *~25–30 minutes · 15 problems*

WARM-UP (5 problems)

1. 7 × 8 = _____ 9 × 6 = _____ 12 × 11 = _____

   Answer: _____

2. 56 ÷ 7 = _____ 72 ÷ 9 = _____ 132 ÷ 11 = _____

   Answer: _____

3. 38 × 4 = _____

   Answer: _____

4. 425 ÷ 5 = _____

   Answer: _____

5. Estimate: 47 × 62 (round each to the nearest ten). Estimate: _____

   Answer: _____

CORE PRACTICE (7 problems)

6. 583 × 47 = _____

   Answer: _____

7. 724 × 86 = _____

   Answer: _____

8. 4,968 ÷ 6 = _____

   Answer: _____

9. 7,245 ÷ 8 = _____ remainder _____

   Answer: _____

10. 3,528 ÷ 24 = _____

    Answer: _____

(11) A number divided by 9 gives a quotient of 847 with a remainder of 3. What is the original number?

Answer: _____

(12) Use the distributive property: $6 \times 78 = 6 \times (80 - 2) =$ _____

Answer: _____

WORD PROBLEMS (3 problems)

(13) A school orders 36 boxes of markers. Each box has 48 markers. How many markers total? If each classroom gets 144, how many classrooms can be supplied?

Show your work:

Total markers: _____ Classrooms supplied: _____

(14) A baker makes 2,016 cookies and packs them in boxes of 24. How many full boxes? She sells each box for $9. How much money does she make?

Show your work:

Boxes: _____ Money earned: _____

(15) A warehouse has 4,875 items to ship in crates of 25. How many full crates? How many items are left over?

Show your work:

Full crates: _____ Left over: _____

⏱ **At 60 minutes:** circle the last problem you completed and put the packet away. You're done for the week!

Part 2 *~25–30 minutes · 14 problems + optional challenge*

PUSHING FURTHER (6 problems)

These problems require more reasoning. Show all steps.

(16) A number multiplied by 8 gives 5,672. What is the number? What is that number multiplied by 12?

(17) Which is greater: $4,824 \div 8$ or $3,906 \div 6$? By how much?

(18) 52 × 47 = _____. Now use your answer to find 52 × 94 without recalculating. Explain your strategy.

(19) A number divided by 7 gives a remainder of 4. The quotient is 236. What is the original number? Verify your answer.

(20) A rectangular floor is 48 ft by 36 ft. Tiles are each 4 ft × 3 ft. How many tiles are needed? How many full boxes of 15 tiles must be bought?

(21) Three friends divide 2,148 equally. Then each friend divides their share equally among 4 family members. How much does each family member get?

MULTI-STEP WORD PROBLEMS (3 problems)

(22) A cinema has 38 rows with 24 seats each. On Friday 75% of seats were filled (round to the nearest whole person). How many people attended? How many seats were empty?

Show your work:

People attended: _____ Empty seats: _____

(23) Tiles are 8 inches wide and 12 inches long. A floor is 96 inches wide and 144 inches long. How many tiles are needed? If tiles come in boxes of 12, how many boxes must be bought?

Show your work:

Tiles needed: _____ Boxes needed: _____

(24) A factory produces 1,350 items per day. How many items in 28 days? If items are packed in crates of 36, how many full crates are produced? How many items are left over?

Show your work:

Total items: _____ Full crates: _____ Left over: _____

SPIRAL REVIEW (5 problems)

↻ **Spiral Review — Week 3**

(25) 6.3 ÷ 0.9 = _____

Answer: _____

↻ **Spiral Review — Week 3**

(26) $2.7 \times 1.4 =$ _____

Answer: _____

↻ Spiral Review — Week 2

(27) $3\frac{3}{4} - 1\frac{1}{2} =$ _____

Answer: _____

↻ Spiral Review — Week 2

(28) $\frac{5}{6} + \frac{7}{9} - \frac{1}{3} =$ _____

Answer: _____

↻ Spiral Review — Week 1

(29) $100{,}000 - 47{,}362 =$ _____

Answer: _____

★ CHALLENGE — OPTIONAL

Using only the digits 1, 2, 3, and 4 (each used exactly once), create two 2-digit numbers whose **product** is as large as possible. Then find the combination with the smallest product. Explain your strategy both times.

Largest product: _____ × _____ = _____ Smallest product: _____ × _____ = _____

WEEKLY REFLECTION

What felt hardest this week? What felt easy or satisfying?

Parent/guardian sign-off: _____ Date: _____

Week 5 of 9

Geometry — area, perimeter & volume

WEEK 5 OF 9

Name: _____ Date completed: _____

> **No calculators this summer.** Work by hand — that's where the learning happens. If you hit **60 minutes**, circle where you stopped and put the packet away. You're done for the week.

Part 1 *~25–30 minutes · 15 problems*

WARM-UP (5 problems)

1. Find the perimeter of a rectangle 8 cm long and 5 cm wide.

   Answer: _____

2. Find the area of the rectangle above.

   Answer: _____

3. Find the area of a triangle: base 10 m, height 7 m.

   Answer: _____

4. Find the volume of a rectangular prism: 5 cm × 4 cm × 3 cm.

   Answer: _____

5. A square has a perimeter of 36 inches. What is the side length and area?

   Answer: _____

CORE PRACTICE (7 problems)

6. A rectangle has area 84 sq cm and length 12 cm. What is its width and perimeter?

   Answer: _____

7. Find the area of a parallelogram: base 15 ft, height 8 ft.

   Answer: _____

8. A cube has edges of 6 inches. What is its volume?

   Answer: _____

9. A box is 14 cm × 9 cm × 6 cm. What is its volume?

   Answer: _____

10. A rectangle has perimeter 54 cm. Its length is twice its width. Find the dimensions and area.

    Answer: _____

11. A room has volume 168 cubic meters. It is 7 m long and 4 m wide. What is its height?

Answer: _____

12. Two congruent triangles form a rectangle 10 cm × 6 cm. What is the area of one triangle?

Answer: _____

WORD PROBLEMS (3 problems)

13. A rectangular garden is 15.5 m long and 8.4 m wide. Fencing costs $4.50 per meter. How much to fence the entire garden?

Show your work:

Answer: _____

14. A fish tank is 60 cm long, 30 cm wide, and 40 cm tall. It is filled $\frac{3}{4}$ full. How many cubic centimeters of water are in it?

Show your work:

Answer: _____

15. A room is 14 ft by 11 ft. Carpet costs $3.25 per sq ft. Baseboards cost $1.80 per linear foot. Find the total cost.

Show your work:

Carpet cost: _____ Baseboard cost: _____ Total: _____

⏱ **At 60 minutes:** circle the last problem you completed and put the packet away. You're done for the week!

Part 2 *~25–30 minutes · 14 problems + optional challenge*

PUSHING FURTHER (6 problems)

These problems require more reasoning. Show all steps.

16. A pool is 25 m × 10 m. A 2-meter wide path surrounds it. What is the area of just the path?

17. A large rectangle is 20 m × 15 m. A smaller rectangle 8 m × 5 m is cut from one corner. What is the remaining area?

18. A rectangular prism has volume 360 cu cm. Its length is 10 cm and width is 6 cm. What is its height?

19. A cube and a rectangular prism both have a volume of 64 cu in. What are the cube's dimensions? Give one possible set for the prism.

20. If all three dimensions of a rectangular prism are doubled, by how much does the volume increase? Show with an example.

21. A rectangular prism has volume 120 cu cm. Find three different sets of whole-number dimensions that work. Which gives the smallest surface area?

MULTI-STEP WORD PROBLEMS (3 problems)

22. A farmer has 120 m of fencing to enclose a rectangular field. She wants the length to be 3 times the width. What are the dimensions? What is the area?

Show your work:

Dimensions: _____ Area: _____

23. A sandbox is 6 ft × 4 ft × 0.5 ft. Sand costs $4.50 per cubic foot. How much to fill it?

Show your work:

Answer: _____

24. A storage unit is 8 ft × 6 ft × 7 ft. Boxes are each 2 ft × 1 ft × 1 ft. How many boxes fit?

Show your work:

Answer: _____

SPIRAL REVIEW (5 problems)

↻ Spiral Review — Week 4

25. 583 × 47 = _____

Answer: _____

↻ Spiral Review — Week 4

26. 7,245 ÷ 8 = _____ remainder _____

Answer: _____

↻ Spiral Review — Week 3

27 $6.3 \div 0.9 =$ _____

Answer: _____

↻ Spiral Review — Week 2

28 $3\frac{3}{4} - 1\frac{1}{2} =$ _____

Answer: _____

↻ Spiral Review — Week 1

29 $100{,}000 - 47{,}362 =$ _____

Answer: _____

★ CHALLENGE — OPTIONAL

A rectangle's length is 3 more than twice its width. Its area is 65 sq cm. Write an equation and find the dimensions. *(Hint: try whole-number widths.)*

Answer: _____

WEEKLY REFLECTION

What felt hardest this week? What felt easy or satisfying?

Parent/guardian sign-off: _____ Date: _____

Week 6 of 9

Coordinate plane & graphing

WEEK 6 OF 9

Name: _____ Date completed: _____

> **No calculators this summer.** Work by hand — that's where the learning happens. If you hit **60 minutes**, circle where you stopped and put the packet away. You're done for the week.

Part 1 *~25–30 minutes · 15 problems*

WARM-UP (5 problems)

1. Name the quadrant: A(3,−2) ___ B(−4,5) ___ C(0,3) ___ D(−2,−1) ___

   Answer: _____

2. What are the coordinates of a point 4 units left and 3 units up from (2,−1)?

   Answer: _____

3. What is the distance between (2,5) and (2,−3)?

   Answer: _____

4. What is the distance between (−4,1) and (3,1)?

   Answer: _____

5. Reflect point (3,−2) over the x-axis. New coordinates: _____

   Answer: _____

CORE PRACTICE (7 problems)

6. Three corners of a rectangle: (1,1), (5,1), (5,4). What is the fourth corner? What is the area?

   Answer: _____

7. Reflect point (3,−2) over the y-axis. New coordinates: _____

   Answer: _____

8. A line passes through (0,0) and (3,6). Does (5,10) lie on this line? How do you know?

   Answer: _____

9. A shape has vertices at (0,0), (4,0), (4,3), (0,3). Name the shape and find its area.

   Answer: _____

10. A pattern: (1,3), (2,5), (3,7), (4,9). What are the next two points? What is the rule?

    Answer: _____

11. What are the coordinates of the midpoint of the segment from (−2,4) to (6,−2)?

Answer: _____

(12) A triangle has vertices at (0,0), (6,0), and (3,4). What is its area?

Answer: _____

WORD PROBLEMS (3 problems)

(13) On a map, the library is at (2,3) and the school is at (2,−1). Each unit = 1 block. How far apart? If the park is halfway between, where is it?

Show your work:

Distance: _____ Park location: _____

(14) A rectangle has opposite corners at (−3,−2) and (4,5). What is its area and perimeter?

Show your work:

Area: _____ Perimeter: _____

(15) Player 1 is at (−3,2) and Player 2 is at (4,−1). A treasure is buried exactly halfway between them. Where is the treasure?

Show your work:

Answer: _____

⏱ **At 60 minutes:** circle the last problem you completed and put the packet away. You're done for the week!

Part 2 *~25–30 minutes · 14 problems + optional challenge*

PUSHING FURTHER (6 problems)

These problems require more reasoning. Show all steps.

(16) Point A is at (2,5). Translate it right 3 and down 4. Then reflect over the y-axis. Final coordinates?

(17) The points (1,2), (2,4), (3,6) form a pattern. Write the rule. What would the 10th point be?

(18) A square has one vertex at (1,1) and the opposite vertex at (5,5). What are the other two vertices? What is the area?

19 A rectangle has vertices at (−2,1), (4,1), (4,−3), (−2,−3). All coordinates are doubled. What are the new vertices? How do the area and perimeter compare?

20 Three points form a right triangle: A(1,1), B(5,1), C(5,4). Confirm it is a right triangle. Find its area and perimeter.

21 A city planner marks parks at A(0,0), B(0,4), C(3,0). Each unit = 1 km. What kind of triangle? What is the perimeter?

MULTI-STEP WORD PROBLEMS (3 problems)

22 Two friends walk from the same starting point. Friend A walks to (4,0), Friend B walks to (0,3). How far is each from the start? How far apart are they?

Show your work:

A from start: _____ B from start: _____ A to B: _____

23 A game board has treasure at (6,8). Player 1 starts at (0,0), Player 2 at (10,2). Who is closer to the treasure? By how much?

Show your work:

P1 distance: _____ P2 distance: _____ Who is closer: _____

24 A delivery driver starts at (0,0), drives to (3,4), then to (3,−2), then back to (0,0). Each unit = 1 mile. Find the total distance driven.

Show your work:

Leg 1: _____ Leg 2: _____ Leg 3: _____ Total: _____

SPIRAL REVIEW (5 problems)

↻ Spiral Review — Week 5

25 A box is 14 cm × 9 cm × 6 cm. What is its volume?

Answer: _____

↻ Spiral Review — Week 5

26 Find the area of a triangle: base 10 m, height 7 m.

Answer: _____

↻ Spiral Review — Week 4

(27) 724 × 86 = _____

Answer: _____

↻ Spiral Review — Week 3

(28) 7.2 − 4.65 = _____

Answer: _____

↻ Spiral Review — Week 2

(29) $3\frac{3}{4} - 1\frac{1}{2}$ = _____

Answer: _____

★ CHALLENGE — OPTIONAL

Three points form a right triangle: A(1,1), B(5,1), C(5,4). Confirm it is a right triangle, find its area and perimeter. Then translate the entire triangle 3 units left and 2 units up — what are the new coordinates?

Answer: _____

WEEKLY REFLECTION

What felt hardest this week? What felt easy or satisfying?

Parent/guardian sign-off: _____ Date: _____

Week 7 of 9

Patterns & sequences

WEEK 7 OF 9

Name: _____ Date completed: _____

> **No calculators this summer.** Work by hand — that's where the learning happens. If you hit **60 minutes**, circle where you stopped and put the packet away. You're done for the week.

Part 1 *~25–30 minutes · 15 problems*

WARM-UP (5 problems)

1. Continue the pattern: 4, 8, 12, 16, _____, _____. Rule: _____
   Answer: _____
2. Continue the pattern: 3, 6, 12, 24, _____, _____. Rule: _____
   Answer: _____
3. Continue the pattern: 100, 93, 86, 79, _____, _____. Rule: _____
   Answer: _____
4. What is the 10th term in the sequence: 5, 10, 15, 20, ...?
   Answer: _____
5. Complete the table: x: 1 2 3 4 5 y: 3 5 7 9 ___
   Answer: _____

CORE PRACTICE (7 problems)

6. A sequence: 2, 5, 8, 11, 14... What is the rule? What is the 20th term?
   Answer: _____
7. A sequence: 1, 4, 9, 16, 25... What is the rule? What is the 10th term?
   Answer: _____
8. Complete the table and write the rule:
   x: 1 2 3 4 5
   y: 7 10 13 __ __
   Rule: y = _____
   Answer: _____
9. A sequence starts at 2 and each term is multiplied by 3. Write the first 6 terms. What is the 8th term?
   Answer: _____

10 Is 97 in the sequence 3, 7, 11, 15, ...? Show how you know.

Answer: _____

11 A pattern of shapes uses 3 tiles for figure 1, 5 tiles for figure 2, 7 tiles for figure 3. How many tiles for figure 10? Figure 25?

Answer: _____

12 Two sequences: A starts at 1 and adds 4 each time. B starts at 3 and adds 3 each time. Will the two sequences ever share a common term? Find the first one.

Answer: _____

WORD PROBLEMS (3 problems)

13 A bookshelf has 8 books on the first shelf, 11 on the second, and 14 on the third. The pattern continues. How many books are on the 6th shelf? The 10th shelf?

Show your work:

6th shelf: _____ 10th shelf: _____

14 A ball bounces to half its height each time. It starts at 64 inches. Write the first 6 bounce heights. After how many bounces is it below 2 inches?

Show your work:

First 6 heights: _____ Bounces below 2 in: _____

15 Chairs are arranged in rows: Row 1 has 5 chairs, Row 2 has 8, Row 3 has 11. A theatre needs at least 100 chairs. What is the minimum number of rows needed?

Show your work:

Answer: _____

⏱ **At 60 minutes:** circle the last problem you completed and put the packet away. You're done for the week!

Part 2 *~25–30 minutes · 14 problems + optional challenge*

PUSHING FURTHER (6 problems)

These problems require more reasoning. Show all steps.

16. The Fibonacci sequence: 1, 1, 2, 3, 5, 8, 13... Each term is the sum of the two before it. Write the next 6 terms. What is the 15th term?

17. A sequence: 1, 3, 7, 15, 31... What is the pattern between consecutive terms? What is the rule? What is the 8th term?

18. A sequence has a first term of 100 and each term is 10 less than the previous. What is the first negative term? What is its position in the sequence?

19. An arithmetic sequence has a first term of 4 and a common difference of 6. Write an expression for the nth term. Use it to find the 50th term.

20. A sequence: 2, 6, 18, 54... Is 4,374 in this sequence? Show how you determined this.

21. Two staircases are being built. Staircase A uses n^2 tiles for n steps. Staircase B uses 2n tiles. For which step numbers does staircase B use more tiles than staircase A?

MULTI-STEP WORD PROBLEMS (3 problems)

22. A savings account starts at $50. $15 is added each week. Write a rule for the amount after n weeks. After how many weeks will there be more than $200?

Show your work:

Rule: _____ Weeks to $200: _____

23. Stadium seats are arranged so that Row 1 has 20 seats and each row after has 4 more than the row before. How many seats in Row 15? Total seats in the first 15 rows?

Show your work:

Row 15 seats: _____ Total in 15 rows: _____

24. A tree is 3 feet tall when planted. It grows 2.5 feet per year. A second tree is 8 feet tall and grows 1.5 feet per year. After how many years will the trees be the same height? What will that height be?

Show your work:

Years: _____ Height at that time: _____

SPIRAL REVIEW (5 problems)

↻ Spiral Review — Week 5

(25) Find the area of a triangle: base 10 m, height 7 m.

Answer: _____

↻ Spiral Review — Week 5

(26) A box is 14 cm × 9 cm × 6 cm. What is its volume?

Answer: _____

↻ Spiral Review — Week 6

(27) Three corners of a rectangle: (1,1), (5,1), (5,4). What is the fourth corner?

Answer: _____

↻ Spiral Review — Week 6

(28) What is the distance between (−4,1) and (3,1)?

Answer: _____

↻ Spiral Review — Week 3

(29) 2.7 × 1.4 = _____

Answer: _____

★ CHALLENGE — OPTIONAL

The sequence 1, 1, 2, 3, 5, 8, 13, 21... is the Fibonacci sequence. Add the first 5 terms: 1+1+2+3+5 = 12. Notice that 12 = 13 − 1. Add the first 7 terms — is there a similar pattern? First 9 terms? Write a conjecture about the sum of the first n Fibonacci numbers.

Sum of first 5: ___ Sum of first 7: ___ Sum of first 9: ___ Conjecture: _____

WEEKLY REFLECTION

What felt hardest this week? What felt easy or satisfying?

Parent/guardian sign-off: _____ Date: _____

Week 8 of 9

Mixed review — all 5th grade topics

WEEK 8 OF 9

Name: _____ Date completed: _____

> **No calculators this summer.** Work by hand — that's where the learning happens. If you hit **60 minutes**, circle where you stopped and put the packet away. You're done for the week.

Part 1 *~25–30 minutes · 15 problems*

WARM-UP (5 problems)

1. Round 3,847,205 to the nearest hundred-thousand.

   Answer: _____

2. 583 × 47 = _____

   Answer: _____

3. 4,968 ÷ 6 = _____

   Answer: _____

4. $3\frac{1}{4} + 1\frac{2}{3}$ = _____

   Answer: _____

5. 4.8 × 2.5 = _____

   Answer: _____

CORE PRACTICE (7 problems)

6. 500,000 − 183,742 = _____

   Answer: _____

7. $\frac{5}{6} \div \frac{5}{3}$ = _____

   Answer: _____

8. 14.728 + 8.345 = _____

   Answer: _____

9. Find the area of a parallelogram: base 14 cm, height 8 cm.

   Answer: _____

10. What is the 8th term in the sequence: 3, 7, 11, 15, ...?

    Answer: _____

11. Find the volume of a box: 12 cm × 9 cm × 7 cm.

Answer: _____

(12) Order from least to greatest: $\frac{3}{4}$, 0.7, $\frac{5}{8}$, 0.82

Answer: _____

WORD PROBLEMS (3 problems)

(13) A store had 1,482 items. They sold 748 on Monday and 395 on Tuesday. They received 500 new items on Wednesday. How many do they have now?

Show your work:

Answer: _____

(14) A recipe uses $2\frac{1}{4}$ cups of flour. You want to make $1\frac{1}{2}$ times the recipe. How much flour? If you only have 3 cups, how much more do you need?

Show your work:

Flour needed: _____ More needed: _____

(15) A rectangular bedroom is 14 ft by 11 ft. Carpet costs $3.25 per sq ft. Baseboards cost $1.80 per linear foot. Find the total cost.

Show your work:

Carpet cost: _____ Baseboard cost: _____ Total: _____

⏱ **At 60 minutes:** circle the last problem you completed and put the packet away. You're done for the week!

Part 2 *~25–30 minutes · 14 problems + optional challenge*

PUSHING FURTHER (6 problems)

These problems require more reasoning. Show all steps.

(16) A number is multiplied by 6, then 48 is subtracted, and the result is 102. What is the number?

(17) Three consecutive even numbers sum to 78. What are the three numbers? (Hint: call the smallest n.)

(18) A path goes around a rectangular park that is 45 m by 30 m and is 2 m wide on all sides. What is the area of just the path?

19. A sequence: 5, 9, 13, 17... Write the rule. What is the 30th term? Is 145 in this sequence?

20. A rectangular prism has a volume of 360 cu cm. Its length is 10 cm and width is 6 cm. What is its height? What is its surface area if you need to wrap it?

21. A 5 kg bag of flour is used over 3 days: 1.25 kg, 0.8 kg, 1.4 kg. How much is left? What was the average daily use?

MULTI-STEP WORD PROBLEMS (3 problems)

22. A bolt of ribbon is $15\frac{3}{4}$ yards. A seamstress uses $\frac{2}{3}$ of it for one project and $\frac{1}{4}$ of the original bolt for another. How many yards are left?

Show your work:

Answer: _____

23. A garden has a rectangular section 20 ft × 14 ft. Seeds cover 1 sq ft and cost $0.08 each. Fencing costs $4.50 per linear foot. What is the total cost to plant seeds and fence the garden?

Show your work:

Seeds cost: _____ Fencing cost: _____ Total: _____

24. Stadium seats: Row 1 has 20 seats, each row after has 4 more. How many seats in Row 10? Total seats in the first 10 rows?

Show your work:

Row 10 seats: _____ Total in 10 rows: _____

SPIRAL REVIEW (5 problems)

↻ **Spiral Review — Week 7**

25. A sequence: 2, 5, 8, 11... What is the 20th term?

Answer: _____

↻ **Spiral Review — Week 7**

26. A savings account starts at $50 and adds $15/week. After how many weeks will it be over $200?

Answer: _____

↻ Spiral Review — Week 6

(27) Find the midpoint of the segment from (−2,4) to (6,−2).

Answer: _____

↻ Spiral Review — Week 5

(28) A box is 14 cm × 9 cm × 6 cm. What is its volume?

Answer: _____

↻ Spiral Review — Week 3

(29) 6.3 ÷ 0.9 = _____

Answer: _____

★ CHALLENGE — OPTIONAL

Using only the digits 1, 2, 3, 4, 5, 6, 7, 8, and 9 (each exactly once), fill in the boxes to make all three equations true at the same time:

__ + __ = 11
__ × __ = 20
__ − __ = 3

The remaining three numbers sum to: __

Answer: _____

WEEKLY REFLECTION

What felt hardest this week? What felt easy or satisfying?

Parent/guardian sign-off: _____ Date: _____

Week 9 of 9

Mixed review — all topics

WEEK 9 OF 9

Name: _____ Date completed: _____

> **No calculators this summer.** Work by hand — that's where the learning happens. If you hit **60 minutes**, circle where you stopped and put the packet away. You're done for the week.

Part 1 *~25–30 minutes · 15 problems*

WARM-UP (5 problems)

1. What is the value of the digit 7 in 4,703,285?

   Answer: _____

2. $3\frac{1}{4} + 1\frac{2}{3} =$ _____

   Answer: _____

3. $4.8 \times 2.5 =$ _____

   Answer: _____

4. Continue the pattern: 3, 6, 12, 24, _____, _____. Rule: _____

   Answer: _____

5. Find the area of a rectangle: 15 cm × 9 cm.

   Answer: _____

CORE PRACTICE (7 problems)

6. $583 \times 47 =$ _____

   Answer: _____

7. $\frac{5}{6} \div \frac{5}{3} =$ _____

   Answer: _____

8. Find the area of a parallelogram: base 14 cm, height 8.5 cm.

   Answer: _____

9. $3{,}528 \div 24 =$ _____

   Answer: _____

10. Find the volume of a box: 12 cm × 9 cm × 7 cm.

    Answer: _____

11. What is the 15th term in the sequence: 4, 7, 10, 13, ...?

Answer: _____

(12) 14.728 + 8.345 = _____

Answer: _____

WORD PROBLEMS (3 problems)

(13) A factory produces 1,350 items per day. How many items in 28 days? If items are packed in crates of 36, how many full crates? How many items are left over?

Show your work:

Total items: _____ Full crates: _____ Left over: _____

(14) A rectangular pool is 25 m × 12 m. A 1.5 m wide path surrounds it. What is the area of just the path?

Show your work:

Answer: _____

(15) A ball bounces to half its height each time. It starts at 128 inches. After how many bounces is it below 2 inches? What is the height after exactly 5 bounces?

Show your work:

Bounces below 2 in: _____ After 5 bounces: _____

⏱ **At 60 minutes:** circle the last problem you completed and put the packet away. You're done for the week!

Part 2 *~25–30 minutes · 14 problems + optional challenge*

PUSHING FURTHER (6 problems)

These problems require more reasoning. Show all steps.

(16) A number is multiplied by 8, then 36 is subtracted, and the result is 124. What is the number?

(17) A sequence: 3, 7, 11, 15... Is 207 in this sequence? Is 210? Show how you determined each.

(18) Three friends share a bolt of ribbon $18\frac{3}{4}$ yards long. The first uses $\frac{1}{3}$, the second uses $\frac{1}{4}$. How many yards does the third friend get?

(19) A rectangle has perimeter 62 cm and its length is 5 more than twice its width. Find the dimensions and area.

(20) Stadium seats: Row 1 has 20 seats, each row after has 4 more. Total seats in the first 20 rows? Which row first has more than 60 seats?

(21) A tank is $\frac{3}{4}$ full and holds 48 gallons when full. If $\frac{1}{3}$ of the current water is used, how many gallons remain?

MULTI-STEP WORD PROBLEMS (3 problems)

(22) A bolt of ribbon is $15\frac{3}{4}$ yards. A seamstress uses $\frac{2}{3}$ for one project and $\frac{1}{4}$ of the original bolt for another. How many yards are left?

Show your work:

Answer: _____

(23) A garden is 12.5 m long and 8.4 m wide. Fertilizer covers 1 sq m and costs $2.50 per sq m. Fencing costs $4.00 per meter. What is the total cost to fertilize the garden and fence it?

Show your work:

Fertilizer cost: _____ Fencing cost: _____ Total: _____

(24) A bike path is 24 miles. A cyclist at 12 mph and a jogger at 6 mph start from opposite ends at the same time. After how many hours do they meet? How far from each starting point?

Show your work:

Hours: _____ From cyclist start: _____ From jogger start: _____

SPIRAL REVIEW (5 problems)

↻ **Spiral Review — Week 7**

(25) What is the 8th term in the sequence: 3, 7, 11, 15, ...?

Answer: _____

↻ **Spiral Review — Week 7**

26 A savings account starts at $50 and adds $15/week. After how many weeks will it be over $200?

Answer: _____

↻ Spiral Review — Week 6

27 Three corners of a rectangle: (1,1), (5,1), (5,4). What is the fourth corner?

Answer: _____

↻ Spiral Review — Week 5

28 A rectangular pool is 25 m × 10 m × 2 m. What is its volume?

Answer: _____

↻ Spiral Review — Week 3

29 6.3 ÷ 0.9 = _____

Answer: _____

★ CHALLENGE — OPTIONAL

A swimming pool is being filled by two pipes. Pipe A fills it in 6 hours. Pipe B fills it in 4 hours. If both pipes are open together, how long does it take to fill the pool? *(Hint: what fraction of the pool does each pipe fill per hour?)*

Answer: _____

WEEKLY REFLECTION

What felt hardest this week? What felt easy or satisfying?

Parent/guardian sign-off: _____ Date: _____