SPRINGER
Lower School & Middle School

Math Packets Summer

This packet is intended for students going into

5th GRADE SAXON Math

Directions: Complete the following math packet week by week. Each week you will find the topic divided into parts so you can manage the workload. This packet has 6 weeks of materials. Take your time and avoid the summer slide by completing the following work that will prepare you for Saxon Math 5. Additionally, at the end of each section, you will find a "Minute math" activity. These problems are designated to improve your math fluency and practice using strategies for solving a variety of problems.

Week 1: Adding and Subtracting Part 1:

- **Adding with Regrouping**

- When added numbers in the ones column add up to more than 10 we can regroup the ones to make tens. Then we carry the new tens into the tens column.
- Regroup 10 ones to make 1 ten.

$$\begin{array}{r} {\scriptstyle 1} \\ 48 \\ +\ 15 \\ \hline 3 \end{array}$$

1. Add ones.
   $8 + 5 = 13$
2. Write the 3 and carry the 1 ten to the tens column.
3. Add tens.
   $1 + 4 + 1 = 6$
4. Write the 6.

$$\begin{array}{r} {\scriptstyle 1} \\ 48 \\ +\ 15 \\ \hline 63 \end{array}$$

$$\begin{array}{r} {\scriptstyle 1} \\ 57 \\ +\ 29 \\ \hline 6 \end{array}$$

1. Add ones.
   $7 + 9 = 16$
2. Write the 6 and carry the 1 ten to the tens column.
3. Add tens.
   $1 + 5 + 2 = 8$
4. Write the 8.

$$\begin{array}{r} {\scriptstyle 1} \\ 57 \\ +\ 29 \\ \hline 86 \end{array}$$

Practice:

Solve each problem using money manipulatives. Then add by regrouping to solve. Remember to write the dollar sign.

1. $\begin{array}{r} \$72 \\ +\ \$19 \\ \hline \end{array}$

2. $\begin{array}{r} \$38 \\ +\ \$24 \\ \hline \end{array}$

3. $\begin{array}{r} \$67 \\ +\ \$35 \\ \hline \end{array}$

4. $\begin{array}{r} \$42 \\ +\ \$39 \\ \hline \end{array}$

5. $\begin{array}{r} \$65 \\ +\ \$25 \\ \hline \end{array}$

6. $\begin{array}{r} \$51 \\ +\ \$49 \\ \hline \end{array}$

Use pencil and paper to add.

7. $\begin{array}{r} \$72 \\ +\ \$16 \\ \hline \end{array}$

8. $\begin{array}{r} \$75 \\ +\ \$66 \\ \hline \end{array}$

9. $\begin{array}{r} \$24 \\ +\ \$57 \\ \hline \end{array}$

Part 2:

- **Subtracting Two-Digit and Three-Digit Numbers**
- **Missing Two-Digit Addends**

Subtracting Two-Digit and Three-Digit Numbers

- To subtract three-digit numbers, work in one column at a time, starting with the ones:

Example:

1. Subtract ones.
2. Subtract tens.
3. Subtract hundreds.

$$\begin{array}{r} 486 \\ -\ 375 \\ \hline 111 \end{array}$$

Missing Two-Digit Addends

- To find a missing addend, always **subtract.**

Examples:

$$\begin{array}{r} 68 \\ +\ a \\ \hline 96 \end{array} \rightarrow \begin{array}{r} 96 \\ -\ 68 \\ \hline a = 28 \end{array} \qquad \begin{array}{r} n \\ +\ 32 \\ \hline 83 \end{array} \rightarrow \begin{array}{r} 83 \\ -\ 32 \\ \hline n = 51 \end{array}$$

Practice:

Remember to write the dollar sign in money problems.

1. $\begin{array}{r} \$257 \\ -\ \$143 \\ \hline \end{array}$

2. $\begin{array}{r} \$678 \\ -\ \$214 \\ \hline \end{array}$

3. $\begin{array}{r} 576 \\ -\ 326 \\ \hline \end{array}$

4. $\begin{array}{r} 488 \\ -\ 223 \\ \hline \end{array}$

5. $\begin{array}{r} \$857 \\ -\ \$746 \\ \hline \end{array}$

6. $\begin{array}{r} 666 \\ -\ 444 \\ \hline \end{array}$

7. $\begin{array}{r} m \\ +\ 31 \\ \hline 48 \end{array}$ $\begin{array}{r} 48 \\ -\ 31 \\ \hline \end{array}$

$m =$ _____

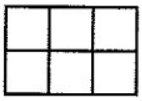
8. $\begin{array}{r} 45 \\ +\ x \\ \hline 78 \end{array}$ $\begin{array}{r} 78 \\ -\ 45 \\ \hline \end{array}$

$x =$ _____

MINUTE 1

NAME _____

1. The area of the shape is 6 square units.
Circle: True or False

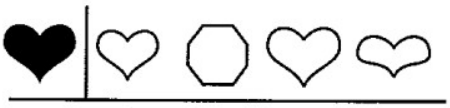


2. Jenna wants to purchase a pad of drawing paper for $5.00, a charcoal pencil for $0.75, and an eraser for $1.25. How much money does she need altogether to buy the supplies? _____

3. 45
+ 4

4. Complete the fact family.
5 x 7 = 35
7 x 5 = _____
35 ÷ 7 = _____
35 ÷ 5 = _____

5. Circle the figure that matches the shaded figure:



6. The difference of 8 and 5 is _____.

7. The expanded form of 654 is 600 + 50 + _____.

8. The sum of 8 and 5 is _____.

For questions 9 and 10, circle the digit in the tens place.

9. 456

10. 925

Week 2: Part 1:

- **Subtraction Word Problems**

- Subtraction problems follow a pattern:

  "Some − Some went away = Some left"

- Another way to express the pattern is:

  "Original amount − Some part = Difference"

- If the original amount (top number) is missing, add the **difference** to the part.

Some	m	apples	23		
Some went away	− 12	apples	+ 12		
Some left	23	apples	35	m =	35 apples

- If the subtracted part is missing, subtract the difference from the original amount.

Some	45	apples	45		
Some went away	− m	apples	− 28		
Some left	28	apples	17	m =	17 apples

- If the difference is missing, subtract the part from the original amount.

Some	67	apples	67		
Some went away	− 34	apples	− 34		
Some left	m	apples	33	m =	33 apples

Practice:

1. At the start line, 53 cyclists had water. Some cyclists dropped their bottles during the race. At the finish, only 28 cyclists had bottles. How many cyclists dropped bottles?

53	had bottles			
− w	dropped bottles	−		
28	now have bottles	w =		_____ dropped bottles

2. A flock of geese started flying north. Then 55 geese landed at a pond. Now 28 geese are flying together. How many geese were flying north before some landed?

y	geese started			
− 55	landed			
28	now flying	y =		_____ geese started

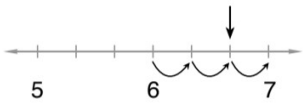
3. Thom had $40. He spent $24. Then how much money did Thom have?

Part 2:

- **Reading Fractions and Mixed Numbers from a Number Line**

- To name mixed numbers on a number line:
    1. Count segments from the whole number to the point to find the **numerator** (top number).
    2. Count the segments between whole numbers to find the **denominator** (bottom number).
    3. Remember to name the whole number.

Example:

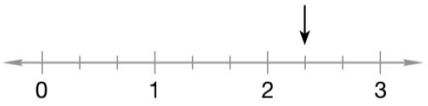


1. Two segments between 6 and the arrow.
   The numerator is 2.
2. Three segments between 6 and 7.
   The denominator is 3.
3. The whole number is 6.
   The answer is $6\frac{2}{3}$.

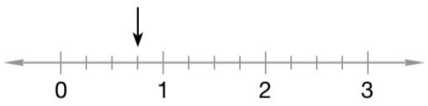
Practice:

Name each fraction or mixed number marked by the arrows below.

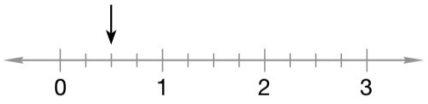
1. _____



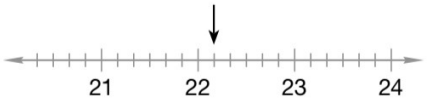
2. _____



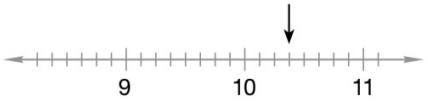
3. _____



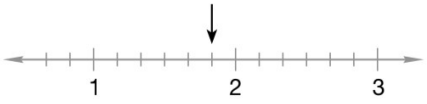
4. _____



5. _____



6. _____



MINUTE 2

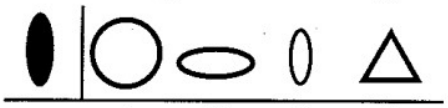
NAME _____

1. 15 – 8 =

2. 4, 8, 12, 16, 20, _____, _____, _____

3.
$$\begin{array}{r} 33 \\ +\ 5 \\ \hline \end{array}$$

4. Circle the figure that is congruent to the shaded figure:



5.
$$\begin{array}{r} 33 \\ -\ 5 \\ \hline \end{array}$$

6. Complete the fact family.

6 x 7 = 42

7 x 6 = _____

42 ÷ 7 = _____

42 ÷ 6 = _____

7.
$$\begin{array}{r} 12 \\ \times\ 6 \\ \hline \end{array}$$

In questions 8–10, does the figure have a line of symmetry? Write *yes* or *no*. If yes, draw a line of symmetry.

8.  _____

9.  _____

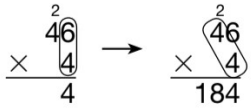
10.  _____

Week 3:

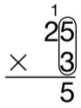
Part 1:

• Multiplying Two-Digit Numbers, Part 1

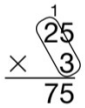
- To multiply a two-digit number by a one-digit number:
  1. Write the larger number on top.
  2. Multiply the ones column by the bottom number.
  3. Carry the tens portion.
  4. Multiply the bottom number by the tens column in the top number. Then add the carried tens to that product.



Example:



1. 3 × 5 = 15. Write the 5.
2. Carry the 1 (ten).



3. 3 × 2 = 6; 6 + 1 = 7. Write the 7.

Practice:

Find each product.

1. 32 × 3 **2.** 34 × 4 **3.** 43 × 3 **4.** 44 × 5

5. 51 × 5 **6.** 54 × 2 **7.** 62 × 4 **8.** 64 × 2

Part 2:

• Multiplication Facts (Memory Group)

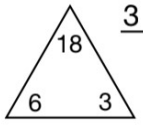
- Read and practice recalling these multiplication facts.

$3 \times 4 = 12$	$4 \times 7 = 28$
$3 \times 6 = 18$	$4 \times 8 = 32$
$3 \times 7 = 21$	$6 \times 7 = 42$
$3 \times 8 = 24$	$6 \times 8 = 48$
$4 \times 6 = 24$	$7 \times 8 = 56$

- Because multiplication and division are **inverse operations**, we can find division facts to complete a fact family for each fact in the memory group.

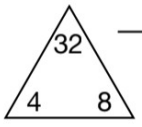
Practice:

Write two multiplication facts and two division facts for each fact family below.

1. 

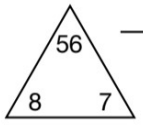
$3 \times 6 = 18$ $\quad \times \quad = \quad$

$3\overline{)18}$ $\quad \overline{)\quad}$

2. 

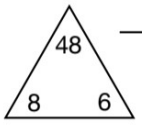
$\times \quad = \quad$ $\quad \times \quad = \quad$

$\overline{)\quad}$ $\quad \overline{)\quad}$

3. 

$\times \quad = \quad$ $\quad \times \quad = \quad$

$\overline{)\quad}$ $\quad \overline{)\quad}$

4. 

$\times \quad = \quad$ $\quad \times \quad = \quad$

$\overline{)\quad}$ $\quad \overline{)\quad}$

Multiply. Try to write the answers quickly without stopping between problems.

5. 4×3 _____	**6.** 4×6 _____	**7.** 4×7 _____
8. 3×6 _____	**9.** 3×7 _____	**10.** 3×8 _____
11. 6×4 _____	**12.** 6×5 _____	**13.** 6×7 _____
14. 7×8 _____	**15.** 8×7 _____	**16.** 8×4 _____

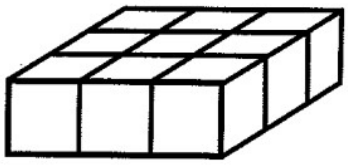
MINUTE 3

NAME _____

1. $4\overline{)72}$

2.
$$\begin{array}{r} 21 \\ +\ 6 \\ \hline \end{array}$$

3. The volume of the shape is 9 cubic units.
Circle: True or False



4. Complete the fact family.
$5 \times 8 = 40$
$8 \times 5 =$ _____
$40 \div 8 =$ _____
$40 \div 5 =$ _____

5. Polly bought a new collar and leash for her dog. The total was $7.50. She paid with a ten-dollar bill. How much change did she receive?
_____

6.
$$\begin{array}{r} 45 \\ -\ 3 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 14 \\ \times\ 5 \\ \hline \end{array}$$

Use <, >, or = to complete questions 8–10.

8. 3 _____ 13

9. 31 _____ 13

10. 310 _____ 310

Week 4:

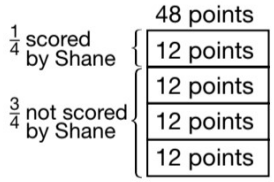
Part 1:

- **Word Problems About a Fraction of a Group**

- To find the fractional part of a group we divide by the number of equal parts. To divide, we use the denominator.

Example: One fourth of the team's 48 points were scored by Shane. Shane scored how many points?

Solution: The whole rectangle represents for 48 points. Shane scored $\frac{1}{4}$ of the points, so we divide the rectangle into 4 equal parts.



$$4\overline{)48}\quad 12$$

Shane scored 12 points

Shortcuts:

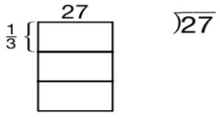
$\frac{1}{2}$ of a number Divide by 2.

$\frac{1}{3}$ of a number Divide by 3.

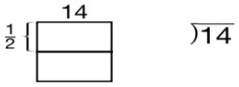
$\frac{1}{4}$ of a number Divide by 4.

Practice:

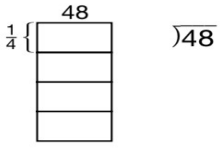
1. What is $\frac{1}{3}$ of 27? _____



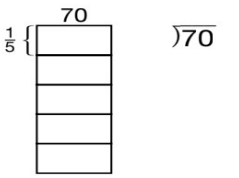
2. What is $\frac{1}{2}$ of 14? _____



3. What is $\frac{1}{4}$ of 48? _____



4. What is $\frac{1}{5}$ of 70? _____



Part 2:

- **Finding Information to Solve Problems**

- Some word problems might contain more information than you need to solve the problem.
- Read all word problems carefully.

Practice:

Read the word problems. Then answer the questions that follow.
Remember to write the units.

Bernard went hiking on Sunday. He hiked for five hours from the trail entrance to Packsaddle Falls. It took Bernard four hours to hike back to the trail entrance. From the trail entrance to Packsaddle Falls is 10 miles.

1. How many hours did Bernard walk in all? _____
2. About how long did it take Bernard to walk one mile on the way to Packsaddle Falls? _____
3. How many miles did Bernard walk altogether? _____

Charisma went to the mall to buy birthday gifts for her twin cousins. She bought a video game for $32. For her other cousin, she bought a scooter. Charisma spent $89 altogether.

4. How much did Charisma spend on the scooter? _____
5. How much more did it cost than the video game? _____
6. If Charisma had bought two video games for $38 each and a scooter, how much would she have spent? _____

Taryn's choir group is planning a trip for the state competition. The bus ride will take 8 hours each way. When they arrive they will wait for 2 hours before performing. Their performance lasts 1 hour. They will eat dinner and return to the bus 2 hours after their performance.

7. How many hours does Taryn's choir spend on the bus altogether? _____
8. How many hours do they spend at the competition? _____
9. How many total hours is the trip? _____

MINUTE 4

NAME _____

1. 85
− 2

2. $7\overline{)35}$ Which number is the dividend in this problem? _____

3. Riley has a 100-page book. She has read half of it. How many pages does she have left to read? _____ pages

4. Complete the fact family.
9 x 4 = _____
4 x 9 = _____
36 ÷ 9 = _____
36 ÷ 4 = _____

5. $4\overline{)28}$

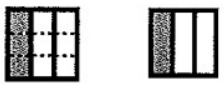
6. 62
+ 7

7. 16
x 7

For questions 8–10, write the equivalent fraction.

8. 

$\frac{2}{4}$ = _____

9. 

$\frac{3}{9}$ = _____

10. 

$\frac{2}{10}$ = _____

Week 5:

Part 1:

- **Multiplying Two Two-Digit Numbers, Part 1**
- Use a three-step process to multiply two two-digit numbers.

Example:

$$\begin{array}{r} 35 \\ \times\ 14 \\ \hline \end{array}$$

1. Multiply the top number by the ones digit in the bottom number (ignore the tens digit).

$$\begin{array}{r} {\scriptstyle 2}\ \ \\ 35 \\ \times\ 14 \\ \hline 140 \end{array}$$

2. On the next line use a zero as a placeholder in the ones place. Then, multiply the top number by the tens digit in the bottom number.

$$\begin{array}{r} 35 \\ \times\ 14 \\ \hline 140 \\ 350 \\ \hline \end{array}$$

3. Add the two lines.

$$\begin{array}{r} 35 \\ \times\ 14 \\ \hline 140 \\ +\ 350 \\ \hline 490 \end{array}$$

Practice:

Multiply.

1.

$$\begin{array}{r} 36 \\ \times\ 24 \\ \hline \\ +\ \ \ 0 \\ \hline \end{array}$$

2.

$$\begin{array}{r} 24 \\ \times\ 36 \\ \hline \\ +\ \ \ 0 \\ \hline \end{array}$$

3.

$$\begin{array}{r} 65 \\ \times\ 17 \\ \hline \\ +\ \ \ 0 \\ \hline \end{array}$$

4.

$$\begin{array}{r} 41 \\ \times\ 28 \\ \hline \\ +\ \ \ 0 \\ \hline \end{array}$$

Part 2:

- **Two-Step Word Problems**

- To solve some word problems we have to perform two operations.
- Writing down the given information or drawing a picture is often helpful in solving two-step word problems.

Practice:

1. Christa bought 8 bagels with a $10 bill. She got back $6. What was the cost of each bagel? Remember to write the units.

Write down what you know:

Christa bought _____. She used _____ to pay for the bagels.

She got back _____ in change.

Subtract to find the cost of 8 bagels.

$$\begin{array}{r} \$10.00 \\ -\ \$\ 6.00 \\ \hline \end{array}$$

Divide to find the cost of each bagel.

)____ *Hint:* Show dollars and cents.

_____ per bagel

2. The perimeter of this rectangle is 12 inches. The length is twice the width. What is the area of the rectangle?

Perimeter: _____ Draw a picture:

Length: _____

Width: _____

Area: _____

3. Melissa is 15 years older than Brent. Brent is 6 years older than Gael. If Brent is 9 years old, how old are Melissa and Gael?

Write down what you know:

Brent is _____ years old.

Melissa is _____ years older than Brent.

To solve, _____ the numbers.

Melissa is _____ years old.

Brent is _____ years old, which is _____ years older than Gael.

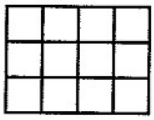
To solve, _____ the numbers.

Gael is _____ years old.

MINUTE 5

NAME _____

1. The area of the shape is 9 square units.
Circle: True or False



2. $3 \times 5 = 15$ Which number is the product? _____

3. $\begin{array}{r} 68 \\ -\ 5 \\ \hline \end{array}$

4. Carol wants to buy 6 pens for $0.75 each. How much money does she need to buy the pens? _____

5. $\begin{array}{r} 21 \\ +\ 6 \\ \hline \end{array}$

6. $8\overline{)72}$

7. The expanded form of 489 is 400 + _____ + 9.

8. $\begin{array}{r} 18 \\ \times\ 6 \\ \hline \end{array}$

For questions 9 and 10, write in the value of the underlined digit.

9. $\underline{5}0$ = _____ tens

10. $\underline{7}0$ = _____ tens

Week 6:

Part 1:

- **Inverse Operations**

- When we know one addition fact, we know three other facts.

  Example: If we know $n + 1 = 3$

  then we also know $1 + n = 3$ $\quad 3 - n = 1$ $\quad 3 - 1 = n$

- Notice that one of the facts shows us how to find the missing addend from the original problem.

  $3 - 1 = n$ $\quad$ So, $n = 2$

- Addition and subtraction are **inverse operations** because one operation "undoes" or "reverses" the other.

Practice:

Write a subtraction fact for each addition fact.

1. $\begin{array}{r} 26 \\ +\ r \\ \hline 43 \end{array}$ $\quad$ $43 - \_\_\_\_$

2. $\begin{array}{r} m \\ +\ 15 \\ \hline 29 \end{array}$ $\quad$ $- \_\_\_\_$

3. $\begin{array}{r} 39 \\ +\ z \\ \hline 63 \end{array}$ $\quad$ $- \_\_\_\_$

4. $\begin{array}{r} 44 \\ +\ d \\ \hline 57 \end{array}$ $\quad$ $- \_\_\_\_$

Write an addition fact for each subtraction fact.

5. $\begin{array}{r} 43 \\ -\ q \\ \hline 6 \end{array}$ $\quad$ $6 + \_\_\_\_$

6. $\begin{array}{r} t \\ -\ 19 \\ \hline 38 \end{array}$ $\quad$ $+ \_\_\_\_$

7. $\begin{array}{r} 64 \\ -\ a \\ \hline 26 \end{array}$ $\quad$ $+ \_\_\_\_$

8. $\begin{array}{r} 17 \\ -\ w \\ \hline 3 \end{array}$ $\quad$ $+ \_\_\_\_$

For each number sentence, write a fact to show how to find the missing number. Then solve.

9. $23 + t = 46$

_____

$t =$ _____

10. $a + 12 = 77$

_____

$a =$ _____

11. $99 - y = 9$

_____

$y =$ _____

Part 2:

• Word Problems About Comparing

- To find the difference between two numbers, subtract.

Formula	Problem	
Larger	52 apples	Always put the larger number on top.
– Smaller	– 21 apples	
Difference	31 apples	

- Watch for these words:

  more
  fewer
  less than
  greater than

Practice:

Read the word problem and fill in the blanks to solve the problems.

1. Cray Lake is 74 feet deep. Silver Lake is 68 feet deep. How many more feet deep is Cray Lake?

   _____ Cray Lake depth

   –_____ Silver Lake depth

   _____ feet deeper

2. Spencer had a collection of 63 comic books. His friend Annabeth had a collection of 78 comics. How many more comics does Annabeth have than Spencer?

   _____ _____

   –_____ _____

   _____ more comics

3. Paulo lives 12 minutes from the pool, while Isaac lives 26 minutes from the pool. How many minutes more does it take Isaac to get to the pool than Paulo?

   _____ _____

   –_____ _____

   _____ minutes more

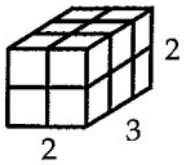
MINUTE 6

NAME _____

1. 92
+ 3

2. 15
x 8

3. The volume of the shape is 12 cubic units.
Circle: True or False



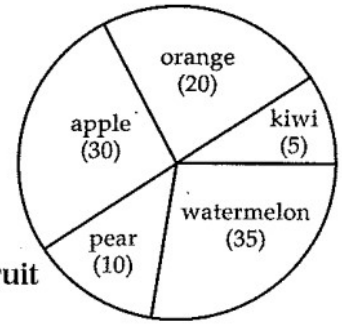
4. $7\overline{)42}$ Which number is the divisor? _____

5. A quadrilateral has _____ sides and four angles.

6. $4\overline{)48}$

7. 54
− 2

Use the circle graph to complete questions 8–10.



Favorite Fruit

8. How many people said pears are their favorite fruit? _____ people

9. Which fruit is the most popular? _____

10. The number of people who said apples are their favorite fruit equals the sum of the number of people who said _____ and _____ are their favorite fruit.

Have a great summer!