

Name: _____

Parent Signature _____

Date _____

This packet must be signed/dated by a parent/guardian upon its completion by the student whose name appears above. It will not be graded without a parent's signature.

Ridgefield Park Public Schools

Summer **Mathematics** Packet For Students Entering Grade 7

- Complete the following mathematics review packet and hand it in to your 7th grade math teacher on the first day of school in September.
- It will be graded and counted as a 1st Marking Period quiz grade...based on 100 points! Record your answers on the Answer Sheet provided (last page of the packet).
- Unanswered questions and answers without work shown will be marked incorrect. All work must be shown on the worksheets or on separate sheets of paper that you attach.
- Beginning on the 2nd day of school the packet will be marked lower by 5 points per day it is late until such time as you would have 0 points.

Please attach this cover page to the front of the materials you will be handing in to your 7th grade math teacher on the first day of school.

OFFICE OF THE SUPERINTENDENT OF SCHOOLS

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Superintendent of Schools*

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ENTERING GRADE 7

June

Dear Parents/Guardians and Student,

School is out for the summer! However, reading and learning must continue year round...and both should last a lifetime!

To keep your child's skills and knowledge sharp this summer, his/her present 6th grade Mathematics and Language Arts Literacy teachers and his/her 7th grade Math and English teachers have prepared the reading and mathematics assignments attached. They will help your child to review thoroughly important material learned during this school year and to prepare properly for the challenges of learning in Grade 7!

For your child to complete the assignments effectively, I suggest that you set a regular, daily and weekly schedule of work time, beginning immediately and continuing through the end of August.

Of course, I fully expect your child to do his/her best work, to complete it all, and to hand it in to his/her new Math 7 and English 7 teachers respectively on the first day of school in September.

Thank you for your cooperation and support of this extremely important summer mathematics and reading and project.

Sincerely,

Dr. John C. Richardson
Superintendent of Schools

Millions Period			Thousands Period			Ones Period		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones
		4	2	0	1	5	7	8

4 million 201 thousand 578

- *Standard form:* 4,201,578
- To find the value of a digit, multiply the digit by its place value.

4 stands for $4 \times 1,000,000$, or 4,000,000

- *Expanded form:*
 $4,201,578 = 4,000,000 + 200,000 + 1,000 + 500 + 70 + 8$

Write each number in standard form.

- | | |
|--|---|
| 1. six thousand one hundred four

3. sixty thousand one hundred twelve

5. seventeen thousandths

7. eight thousand two hundred ninety
_____ | 2. fifteen million twenty-one thousand

4. 2 billion, 9 million, 6 thousand, 1

6. twenty-nine hundredths

8. one billion thirty thousand fifty
_____ |
|--|---|

Use $<$ or $>$ to complete each statement.

- | | | |
|--|--|--|
| 9. 523 <input type="checkbox"/> 567 | 10. 1,292 <input type="checkbox"/> 1,192 | 11. 47 <input type="checkbox"/> 45 |
| 12. 9,120 <input type="checkbox"/> 912 | 13. 53,010 <input type="checkbox"/> 53,100 | 14. 4,293 <input type="checkbox"/> 4,239 |
| 15. 783 <input type="checkbox"/> 738 | 16. 4,121 <input type="checkbox"/> 4,212 | 17. 35,423 <input type="checkbox"/> 34,587 |
| 18. 241,796 <input type="checkbox"/> 242,976 | 19. 182 <input type="checkbox"/> 1,820 | 20. 8,751 <input type="checkbox"/> 8,715 |

Write in order from least to greatest.

- | | |
|---|---|
| 21. 782, 785, 783, 790

23. 6,214; 6,124; 6,421; 6,241

25. 45,923; 54,923; 45,932; 54,932
_____ | 22. 1,240; 1,420; 1,346; 1,364

24. 92,385; 92,835; 93,582; 93,258

26. 1,111; 1,011; 1,101; 1,110
_____ |
|---|---|

Review 2

Name _____

Reading and Writing Decimals

Ones	Tenths	Hundredths	Thousandths
2	3	6	9

2 and 369 thousandths

- *Standard form:* 2.369
- To find the value of a digit, multiply the digit by its place value.
9 stands for 9×0.001 or 0.009
- *Expanded form:*
 $2.369 = 2 + 0.3 + 0.06 + 0.009$

Write each decimal in expanded form.

1. 3.6

2. 4.72

3. 1.283

4. 21.5

5. 7.03

6. 15.308

7. 32.27

8. 6.475

Write each decimal in words.

9. 0.2

10. 0.15

11. 0.29

12. 0.11

13. 0.60

14. 0.9

15. 0.50

16. 0.4

17. 0.37

Write each decimal in standard form.

18. seven tenths

19. one tenth

20. four hundredths

21. seven hundredths

22. twenty-two hundredths

23. forty-six hundredths

24. eighty hundredths

25. thirty hundredths

26. three hundredths

Review 3

Name _____

Use $>$, $<$, or $=$ to show how 4.092 and 4.089 compare.

- ① Write the numbers on grid paper with the decimal points lined up.
- ② Compare digits in the greatest place. Move to the right until you find digits that are not the same.

4 ones = 4 ones
 0 tenths = 0 tenths
 9 hundredths $>$ 8 hundredths

So, $4.092 > 4.089$.

4	.	0	9	2
4	.	0	8	9

To order numbers from least to greatest:

- ① Write the numbers on grid paper (decimal points lined up) and compare.
- ② Then arrange the numbers from least to greatest.

4.089, 4.09, 4.092

4	.	0	9	2
4	.	0	8	9
4	.	0	9	

Use $<$, $=$, or $>$ to complete each statement.

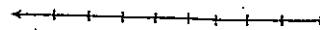
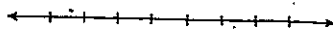
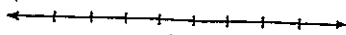
- | | | |
|---|---|---|
| 1. 0.01 <input type="checkbox"/> 0.15 | 2. 0.25 <input type="checkbox"/> 0.21 | 3. 0.30 <input type="checkbox"/> 0.26 |
| 4. 0.10 <input type="checkbox"/> 0.12 | 5. 0.35 <input type="checkbox"/> 0.34 | 6. 0.1 <input type="checkbox"/> 0.4 |
| 7. 34.4 <input type="checkbox"/> 34.40 | 8. 0.207 <input type="checkbox"/> 0.27 | 9. 0.08 <input type="checkbox"/> 0.40 |
| 10. 0.32 <input type="checkbox"/> 0.309 | 11. 6.12 <input type="checkbox"/> 6.099 | 12. 0.990 <input type="checkbox"/> 0.99 |
| 13. 2.36 <input type="checkbox"/> 2.036 | 14. 0.05 <input type="checkbox"/> 0.15 | 15. 1.19 <input type="checkbox"/> 1.91 |

Use place value to order the decimals from least to greatest.

- | | | |
|--------------------------------|----------------------------------|--------------------------------|
| 16. 3.46, 3.64, 3.59
_____ | 17. 22.97, 21.79, 22.86
_____ | 18. 43, 43.22, 43.022
_____ |
| 19. 10.02, 10.2, 1.02
_____ | 20. 1.09, 1.9, 1.1
_____ | 21. 7.54, 75.4, 7.4
_____ |

Order each set of numbers on a number line.

- | | | |
|--------------------|-----------------------|---------------------|
| 22. 0.67, 0.7, 0.6 | 23. 0.03, 0.29, 0.019 | 24. 8.36, 8.01, 8.1 |
|--------------------|-----------------------|---------------------|



Review 4

Name _____

Estimating with Decimals

To round \$76.38 to the nearest dollar:

- ① Find the rounding place. \$76.38
- ② Look at the digit to the right. \$76.38
- ③ If that digit is less than 5, leave the digit in the rounding place as is. If the digit is 5 or greater, round up.

\$76.38 rounds to \$76.

You can use rounding to estimate a sum.

$$3.76 + 0.85 + 4.09$$

Round each number to the ones place.

$$3.76 \rightarrow 4$$

$$0.85 \rightarrow 1$$

$$4.09 \rightarrow 4$$

Then add. 9

The sum is about 9.

You can estimate decimal products, quotients, sums, and differences by using *compatible numbers*.

Example 1 Estimate the product 9.47×3.81

$9.47 \rightarrow 10$	Change to compatible numbers—numbers that are easy to multiply.
$\times 3.81 \rightarrow \times 4$	
40	

The product is about 40.

Example 2 Estimate the quotient $23.96 \div 4.78$.

$23.96 \div 4.78$	Change to compatible numbers—numbers that are easy to divide.
$\begin{array}{c} \downarrow \quad \downarrow \\ 24 \div 4 = 6 \end{array}$	

The quotient is about 6.

Round each decimal to the nearest hundredth.

- | | | |
|------------------|----------------|-----------------|
| 1. 1.679 _____ | 2. 4.981 _____ | 3. 12.602 _____ |
| 4. 32.9744 _____ | 5. 0.159 _____ | 6. 2.008 _____ |

Round each decimal to the nearest tenth.

- | | | |
|-----------------|------------------|-----------------|
| 7. 6.457 _____ | 8. 15.0886 _____ | 9. 0.1235 _____ |
| 10. 1.036 _____ | 11. 25.671 _____ | 12. 6.390 _____ |

Estimate each sum or difference.

- | | | | |
|---|---|--|---|
| 13. $\begin{array}{r} \$2.98 \\ + 7.22 \\ \hline \end{array}$ | 14. $\begin{array}{r} \$5.33 \\ + 2.91 \\ \hline \end{array}$ | 15. $\begin{array}{r} \$10.02 \\ - 6.89 \\ \hline \end{array}$ | 16. $\begin{array}{r} \$15.84 \\ + 37.12 \\ \hline \end{array}$ |
|---|---|--|---|

Use compatible numbers to estimate.

- | | | |
|----------------------------|-----------------------------|-------------------------|
| 17. $7.21 \div 3$
_____ | 18. $31.74 \div 5$
_____ | 19. $522 + 81$
_____ |
| 20. $908 - 445$
_____ | 21. $477 + 78$
_____ | 22. $73 + 229$
_____ |

Add $3.25 + 12.6 + 18.93$.

First estimate.	3.25	→	3
	12.6	→	13
	<u>+ 18.93</u>	→	<u>19</u>
			35

Then follow these steps.

- ① Line up the decimal points. Write in any needed zeros. ② Add as you would add whole numbers. Regroup when needed. ③ Place the decimal point.

$$\begin{array}{r} 3.25 \\ 12.60 \\ + 18.93 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ 3.25 \\ 12.60 \\ + 18.93 \\ \hline 34.78 \end{array}$$

$$\begin{array}{r} 3.25 \\ 12.60 \\ + 18.93 \\ \hline 34.78 \end{array}$$

← Compare to your estimate.

To subtract decimals, follow similar steps. Work from right to left and regroup when needed. Place the decimal point to complete the subtraction.

First estimate and then find each sum.

1. $0.9 + 6.7$

Estimate _____

Sum _____

2. $3.1 + 9.4$

Estimate _____

Sum _____

3. $4.88 + 8.19$

Estimate _____

Sum _____

Use mental math to find each sum.

4. $14.05 + 9.75$

5. $6 + 0.22 + 0.78$

6. $9.104 + 5.01 + 7.99$

First estimate and then find each difference.

7. $8.5 - 4.2$

Estimate _____

Difference _____

8. $7.2 - 3.05$

Estimate _____

Difference _____

9. $5.07 - 2.8$

Estimate _____

Difference _____

10. $6.347 - 2.986$

11. $14.2 - 9.86$

12. $13.45 - 5.001$

13. $22.7 - 12.06$

14. $16.1 - 10.88$

15. $1.79 - 0.879$

Lincoln Middle School needs new smoke alarms. The school has \$415 to spend. Alarms with escape lights cost \$18, and alarms with a false-alarm silencer cost \$11. The school wants 4 times as many escape-light alarms as silencer alarms. How many of each kind can the school purchase?

Read and Understand What facts are needed to solve the problem? *You need the costs of the alarms, \$18 and \$11; the amount to be spent, \$415; and the fact that 4 times as many escape-light alarms as silencer alarms will be bought.*

Plan and Solve You can try values and check them to solve this problem.
Try: Buy 12 escape-light alarms and 3 silencer alarms.

$$\text{Check: } 12 \times \$18 = \$216$$

$$3 \times \$11 = \$33$$

$$\text{Add: } \$249$$

\$249 is a lot less than the \$415 that the school has to spend. Continue with different values until you solve the problem.

Buy 20 escape-light alarms and 5 silencer alarms.

$$20 \times \$18 = \$360$$

$$5 \times \$11 = \$55$$

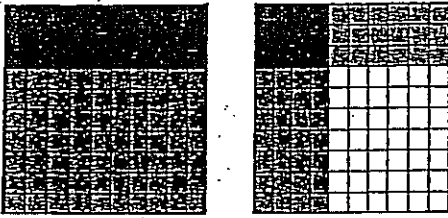
$$\text{Add: } \$415$$

Look Back and Check Check to see whether your answer agrees with the information in the problem. *Is the total amount spent \$415, or slightly less? Are there 4 times as many escape-light alarms as silencer alarms?*

Choose a strategy to solve each problem.

- Tina needs batteries. AA batteries cost \$3 per pack. D batteries cost \$4 per pack. If she has \$26 to spend and buys 3 times as many packs of AA batteries as D batteries, how many packs of each does she buy?
- Ian needs cassette tapes for his recorder. One package of 3 tapes sells for \$5. Another pack of 2 costs \$4. If Ian has \$19 and buys 11 cassettes, how many packs of each kind does he buy?
- Hyugen has \$50 to spend on CDs. New ones cost \$9 and used cost \$7. He wants to buy more new CDs than used. How many of each can he buy?
- Frank has \$41 to spend on computer disks. A pack of 10 ES brand costs \$13 and a pack of 11 CW brand costs \$14. How many packs of each can he buy if he spends all his money?

Multiply 0.3×1.4 . This drawing can help you find 0.3×1.4 .



Each small square is 1 hundredth or 0.01.
Each column or row is 10 hundredths or 1 tenth or 0.1.

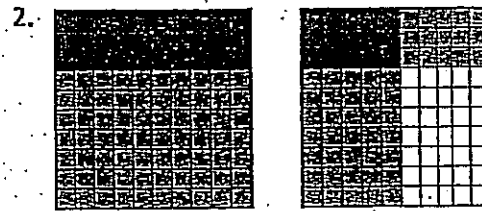
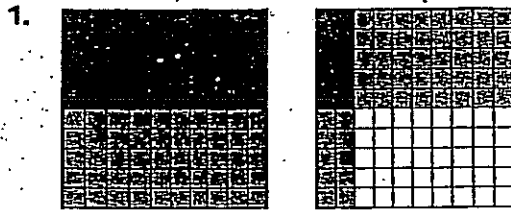
- ① Shade 3 rows across to represent 0.3.
- ② Shade 14 columns down to represent 1.4.
- ③ The area where the shading overlaps is 42 hundredths or 0.42.
 $0.3 \times 1.4 = 0.42$

Compare the result from the model to the result of multiplying the factors.

$$\begin{array}{r}
 0.3 \quad \leftarrow 1 \text{ decimal place} \\
 \times 1.4 \quad \leftarrow +1 \text{ decimal place} \\
 \hline
 12 \\
 + 030 \\
 \hline
 0.42 \quad \leftarrow 2 \text{ decimal places}
 \end{array}$$

When multiplying decimals, first multiply the factors as though they are whole numbers. Then add the number of decimal places in each factor to find the number of decimal places in the product.

Write a multiplication statement to describe each model.



For each product place the decimal point in the correct place.

3.
$$\begin{array}{r}
 0.9 \\
 \times 2.8 \\
 \hline
 252
 \end{array}$$

4.
$$\begin{array}{r}
 3.1 \\
 \times 77 \\
 \hline
 2387
 \end{array}$$

5.
$$\begin{array}{r}
 6.22 \\
 \times 8 \\
 \hline
 4976
 \end{array}$$

6.
$$\begin{array}{r}
 19.6 \\
 \times 2.03 \\
 \hline
 39788
 \end{array}$$

Find each product.

7.
$$\begin{array}{r}
 1.6 \\
 \times 3.7 \\
 \hline
 \end{array}$$

8.
$$\begin{array}{r}
 8.12 \\
 \times 59 \\
 \hline
 \end{array}$$

9.
$$\begin{array}{r}
 12.3 \\
 \times 6.1 \\
 \hline
 \end{array}$$

10.
$$\begin{array}{r}
 5.9 \\
 \times 1.2 \\
 \hline
 \end{array}$$

11.
$$\begin{array}{r}
 23.4 \\
 \times 5.2 \\
 \hline
 \end{array}$$

12.
$$\begin{array}{r}
 4.8 \\
 \times 42 \\
 \hline
 \end{array}$$

13.
$$\begin{array}{r}
 9.2 \\
 \times 12.4 \\
 \hline
 \end{array}$$

14.
$$\begin{array}{r}
 120 \\
 \times 7.6 \\
 \hline
 \end{array}$$

15.
$$\begin{array}{r}
 3.15 \\
 \times 2.3 \\
 \hline
 \end{array}$$

Review 8

Name _____

Multiplying and Dividing Decimals by 10, 100, and 1,000

Example 1: Multiply 10×0.65 .

There is one zero in 10 so move the decimal point one place to the right.

$$10 \times 0.65 = 6.5$$

Check your answer using a paper and pencil.

$$0.65 \quad \leftarrow \quad 2 \text{ decimal places}$$

$$\times 10 \quad \leftarrow \quad 0 \text{ decimal places}$$

$$6.50 \quad \leftarrow \quad 2 \text{ decimal places}$$

$$6.50 = 6.5$$

Example 2: Divide $15.5 \div 100$.

There are two zeros in 100 so move the decimal point two places to the left.

$$15.5 \div 100 = 0.155$$

Check your answer using a paper and pencil.

$$\begin{array}{r} 0.155 \\ 100 \overline{)15.5} \\ \underline{-100} \\ 550 \\ \underline{-500} \\ 500 \\ \underline{-500} \\ 0 \end{array}$$

Use mental math to find each product.

1. 2.7×10

2. $2.5(10)$

3. $100(0.21)$

4. 0.77×100

5. $10 \times 0.2 \times 1$

6. $5 \times 0.2 \times 100$

7. 2.64×100

8. $7.5 \cdot 1,000$

9. $0.5 \times 2 \times 20$

Use mental math to find each quotient.

10. $0.4 \div 10$

11. $2.3 \div 100$

12. $7 \div 100$

13. $52.3 \div 10$

14. $3 \div 1,000$

15. $41 \div 100$

Use $<$, $=$, or $>$ to complete each statement.

16. 2.2×10 $2.2(10)(0.1)$

17. $1.1 \div 10$ $110 \div 100$

18. $60 \div 100$ $600 \div 10$

19. $5 \times 0.3 \times 2$ 10×0.3

20. $0.22 \div 10$ $0.22 \div 0.1$

21. 0.004×100 $10 \times 10 \times 0.004$

22. $5.5 \times 2 \times 10$ 5.5×100

23. $(2 \times 5) 0.14$ $0.14 (10)$

Name: _____

Elementary School: _____

Seventh Grade Summer Packet: Answer Sheet

Record each answer on the lines provided.

Review 1 (p.1)

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____ 10. _____

11. _____ 12. _____

13. _____ 14. _____

15. _____ 16. _____

17. _____ 18. _____

19. _____ 20. _____

21. _____

22. _____

23. _____

24. _____

25. _____

26. _____

Review 2 (p. 2)

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____

21. _____

22. _____

23. _____

24. _____

25. _____

26. _____

Review 3 (p. 3)

1. _____

2. _____ 3. _____

4. _____ 5. _____

6. _____ 7. _____

8. _____ 9. _____

10. _____ 11. _____

12. _____ 13. _____

14. _____ 15. _____

16. _____

17. _____

18. _____

19. _____

20. _____

21. _____

22. \longleftrightarrow

23. \longleftrightarrow

24. \longleftrightarrow

Review 4 (p. 4)

1. _____

2. _____

3. _____

Name: _____

Elementary School: _____

Review 4 (p. 4) CONT'D

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____

21. _____

22. _____

Review 5 (p. 5)

1. E: _____; S: _____

2. E: _____; S: _____

3. E: _____; S: _____

4. _____

5. _____

6. _____

7. E: _____; D: _____

8. E: _____; D: _____

9. E: _____; D: _____

10. E: _____; D: _____

11. E: _____; D: _____

12. E: _____; D: _____

13. E: _____; D: _____

14. E: _____; D: _____

15. E: _____; D: _____

Review 6 (p. 6)

1. _____

2. _____

3. _____

4. _____

Review 7 (p. 7)

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

Review 8 (p. 8)

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____ 17. _____

18. _____ 19. _____

20. _____ 21. _____

22. _____ 23. _____