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3

MATHEMATICS

QUARTER 1

Week 2

CapsLET

**Capsulized Self-Learning
Empowerment Toolkit**

Schools Division Office of Zamboanga City
Region IX, Zamboanga Peninsula
Zamboanga City

"Unido, Junto avanza con el EduKalidad"



"Cree, junto junto puede!"

Jonna Rose G. Jallores
Teacher I
Catalina Vda. De Jalon Memorial School



CapSLET

Capsulized Self-Learning Empowerment Toolkit

SUBJECT & GRADE/LEVEL	MATHEMATICS 3				
QUARTER	FIRST	WEEK	2	DAY	dd/mm/yyyy
TOPICS	<ul style="list-style-type: none"> ❖ Rounding Off Numbers to the Nearest Tens, Hundreds and Thousands ❖ Comparing Numbers up to 10 000 ❖ Ordering Numbers up to 10 000 				
LEARNING COMPETENCIES	<p>The learner:</p> <ul style="list-style-type: none"> a. rounds numbers to the nearest tens, hundreds and thousands. (M3NS-Ib-15.1) b. compares numbers up to 10 000 using relation symbols. (M3NS-Ib-12.3) c. orders 4 to 5-digit numbers in increasing and decreasing order. (M3NS-Ib-13.3) 				

IMPORTANT: Do not write anything on this material. Write your answers on separate sheets.

UNDERSTAND

Lesson 1: Rounding Off Numbers to the Nearest Tens, Hundreds, and Thousands

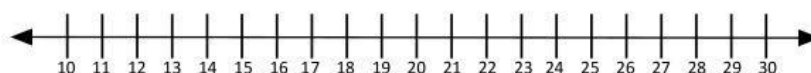
A Understand Rounding off Numbers

It is difficult to know the number of beads in a bottle by simply looking at a glance. Likewise, it is also hard to tell the number of people in a big crowd watching a basketball game. For you to know how many beads there are in a bottle and how many people are watching the game, you can make an estimate. You can estimate when you need to know the amount something. Rounding off numbers is one way of making an estimate. You can use a **number line** in making estimates or rounding off numbers. A **number line** is a line with points that are represented by numbers. The number line has two arrow heads which can be extended on both sides. The numbers on the number line are arranged in increasing order (least to greatest).

SAMPLE PROBLEM 1

Suppose it takes you 12 minutes to go to school from your house. Could you say it takes you about 10 minutes or about 20 minutes to go to school every day?

Let us use a number line with one unit interval starting from 10 up to 30.



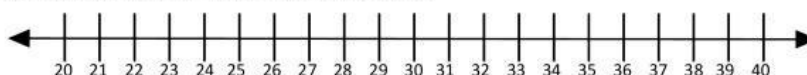
GUIDE QUESTION	ANSWER
1. Find the point for digit/number 12. Is it closer to 10 or 20?	It is closer to 10. Since it is closer to the smaller number, we round it down. So, 12 rounded to the nearest tens is 10.
2. Find 28. To which number is it closer to? 20 or 30?	Since it is closer to the higher number, which is 30, we round it up. So, 28 rounded to the nearest tens is 30.
3. Find 25. Where is it located? Is it closer to 20 or 30?	It is in the middle of 20 and 30. Round up numbers that have 5 on the right of the digit to be rounded off, such as 25. So, 25 rounded to the nearest tens is 30.

SAMPLE PROBLEM 2

Joy loved reading. She read her favorite book for 27 days. Do you also love reading books? About how many days did Joy read her favorite book? Round to the nearest tens.

SOLUTION:

Study the number line to find the answer.



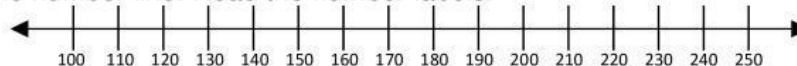
To which tens is 27 nearer to, 20 or 30?

Therefore, we can say that Joy read her favorite book for an estimate 30 days.

The numbers 20, 21, 22, 23, 24, are nearer to 20. When rounded to the nearest tens, the answer is 20. Did you round up or down?

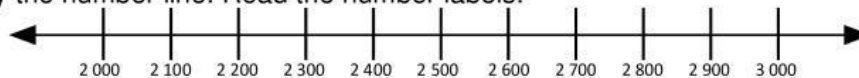
The numbers 25, 26, 27, 28, 29 are nearer to 30. When rounded to the nearest tens, their answer is 30. Did you round up or round down?

A. Study the number line. Read the number labels.



In which hundreds is 160 nearer to, 100 or 200? 160 rounded to nearest hundreds is 200.

B. Study the number line. Read the number labels.



In which thousands is 2 200 nearer to, 2 000 or 3 000? So, 2 200 becomes 2 000 when rounded to the nearest thousands.

B Understand When to Round Up and Round Down Numbers

How do we round off numbers without using number lines? Another way of rounding off numbers is by applying or following certain rules. The following are the steps in rounding off numbers without using number line:

1

Look for the place value of the digit to be rounded off. You may underline the digit to be rounded off.

2

Identify the digit on the right of the digit to be rounded off. You may encircle the digit. If the digit on the right is 4 or 3,2,1,0, round it down. If the digit is 5 or 6,7,8,9, round it up.

3

Change each of the digits to the right of the digit to be rounded off to zero.
Retain the digit on the left of the digit to be rounded off, if ever there is.

EXAMPLES:

1. Round-off 34 to the nearest tens.

EXAMPLE	STEPS
<u>3</u> 4	The digit in the tens place is <u>3</u>
<u>3</u> (4)	The digit on the right is <u>4</u> . You need to ROUND DOWN.
<u>3</u> <u>4</u> ↓ <u>3</u> <u>0</u>	Since you need to round it down, retain <u>3</u> . Then, change 4 into 0

Therefore, **34** rounded to the nearest tens is **30**.

2. Round-off 256 to the nearest hundreds.

EXAMPLE	STEPS
<u>2</u> 5 6	The digit in the hundreds place is <u>2</u>
<u>2</u> (5) 6	The digit on the right is <u>5</u> . You need to ROUND UP.
<u>2</u> <u>5</u> <u>6</u> ↓ <u>3</u> <u>0</u> <u>0</u>	Since you need to round it up, add 1 to 2 . So, <u>2</u> will become <u>3</u> . Then, change 56 into 00.

Therefore, **256** rounded to the nearest hundreds is **300**.

3. Round-off 4 592 to the nearest hundreds.

EXAMPLE	STEPS
4 <u>5</u> 9 2	The digit in the hundreds place is <u>5</u>
4 <u>5</u> (9) 2	The digit on the right is <u>9</u> . You need to ROUND UP.
4 5 <u>9</u> <u>2</u> ↓ 4 6 <u>0</u> <u>0</u>	Since you need to round it up, add 1 to 5 . So, <u>5</u> will become <u>6</u> and retain the remaining digit/s on the left of the digit to be rounded off. In this case, retain <u>4</u> . Then, change 92 into 00.

Therefore, **4 592** rounded to the nearest hundreds is **4 600**.

4. Round-off 8 176 to the nearest thousands.

EXAMPLE	STEPS
8 1 7 6	The digit in the thousands place is 8
8 1 7 6	The digit on the right is 1. You need to ROUND DOWN.
8 <u>1</u> 7 6 ↓	Since you need to round it down, retain <u>8</u> .
8 <u>0</u> 0 0	Then, change 176 into 000.

Therefore, **8 176** rounded to the nearest thousands is **8 000**.

SAQ-1: How do we round off numbers?

SAQ-2: When do we round up and round down numbers?

Let's Practice!

(Write your answers on separate sheets.)

ACTIVITY 1

Directions: Round off the following numbers. Write your answer on the blanks.

<u>Round off to the nearest Tens</u>	<u>Round off to the nearest Hundreds</u>	<u>Round off to the nearest Thousands</u>
1.) 72 _____	1.) 291 _____	1.) 3 234 _____
2.) 85 _____	2.) 535 _____	2.) 5 637 _____
3.) 53 _____	3.) 851 _____	3.) 7 226 _____
4.) 39 _____	4.) 643 _____	4.) 4 129 _____
5.) 16 _____	5.) 949 _____	5.) 8 815 _____

ACTIVITY 2

Directions: Round off the following numbers to the nearest place value indicated. Write your answers on the space provided.

- | | | |
|-----------------------|------------------------|-------------------------|
| 1.) <u>3</u> 5 _____ | 3.) <u>8</u> 46 _____ | 5.) 7 <u>2</u> 83 _____ |
| 2.) <u>2</u> 47 _____ | 4.) <u>4</u> 756 _____ | |

REMEMBER

Key Points

- When rounding off numbers, first, we need to look for the place value of the digit to be rounded off.
- Then, check the digit to its right. If the digit is 4 or below, round it down. If it is 5 or above, round it up. Retain the digit on the left of the digit to be rounded off if there is.
- Lastly, change the digits to the right of the digit to be rounded off to zero.

TRY

Let's see how much you have learned today!

General Directions: Study the following assessments carefully and write your answers on separate sheets.

Assessment 1

Directions: Round off the following numbers to the nearest place value indicated.

1. 32 _____ 3. 882 _____ 5. 5 690 _____
 2. 469 _____ 4. 6 072 _____

Assessment 2

Directions: Read and answer each question carefully. Write only the letter of your choice on the space provided before each item.

- _____ 1.) As of June 17, the number of confirmed COVID-19 cases in the PNP organization has risen to 440. If rounded off to the nearest hundreds, how many cases of COVID-19 are there in the PNP organization?
 A. 400 B. 450 C. 500 D. 550
- _____ 2.) Mang Tomas harvested 7, 923 pieces of ripe mangoes last Sunday. If rounded off to the nearest thousands, about how many ripe mangoes did Mang Tomas harvest last Sunday?
 A. 7 000 B. 7 900 C. 8 000 D. 8 900
- _____ 3.) Mother needs 176 eggs for her leche flan. If rounded off to the nearest tens, about how many eggs should she buy?
 A. 100 B. 180 C. 200 D. 280
- _____ 4.) A dressmaker needs 48 meters of cloth for the face masks she is about to sew. About how many meters of cloth should she buy?
 A. 40 B. 50 C. 60 D. 80
- _____ 5.) Jonie gained 482 scores in playing Helix Jump. About how many scores did he gain in playing Helix Jump if rounded off to the nearest tens?
 A. 400 B. 480 C. 500 D. 580

Assessment 3

Directions: Read and answer each question carefully. Write your answer on the space provided in each item.

- _____ 1.) What is the largest 3-digit number that can be rounded off to 800?
- 2.) The number of pupils who were enrolled during the remote enrollment was 2, 000 when rounded off to the nearest thousands. What could be the actual number of pupils who enrolled during the remote enrollment? Give the least and the greatest number of pupils.
 2. a. Least: _____
 2. b. Greatest: _____
- _____ 3.) Given the digits 2, 4, and 6, form a 3-digit number that gives an estimate of 500 when rounded to the nearest hundred. What is the greatest number?
- _____ 4.) What is the smallest possible number that gives the result of 2, 600 when rounded to the nearest hundreds?

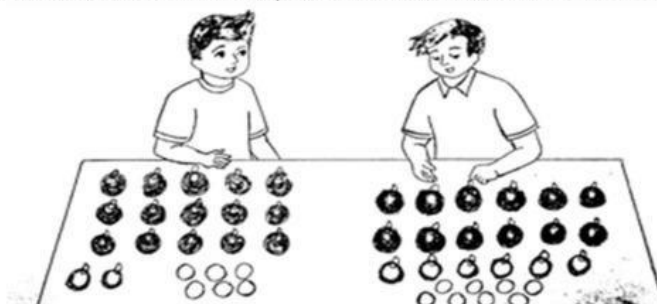
Lesson 2: Comparing Numbers up to 10 000

A Understand Comparing Numbers

In comparing numbers, you need to know the differences between the given numbers. You need to identify whether the number is greater than, smaller than, or equal to the other number being compared. There are many ways to compare numbers.

SAMPLE PROBLEM 1

Meet Ricky and Roy. Ricky and Roy are best friends. The two best friends collected rubber bands for a week. They love to play together. Do you also love to play with your friends? Look at the pictures of rubber bands each of them has collected. Who do you think collected more rubber bands?


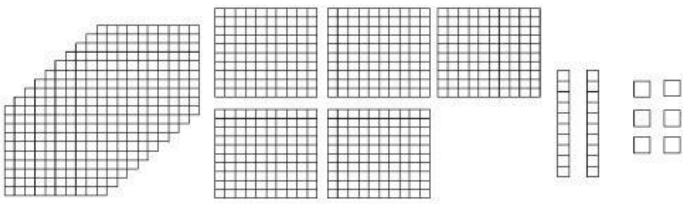

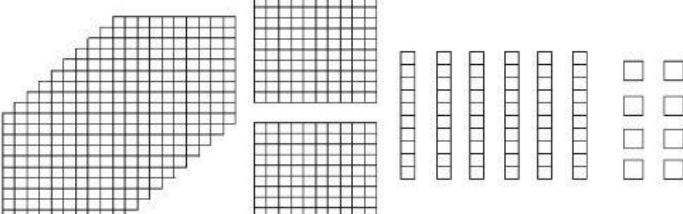


Ricky and Roy counted the rubber bands they collected and wrote these on a chart.

Best Friends	Number of rubber bands collected
Ricky	1 526
Roy	1 268

How many rubber bands did Ricky collect? How about Roy? Who collected more rubber bands?

Let us visualize the problem using blocks, flats, longs, and squares.

BEST FRIENDS	NUMBER OF RUBBER HANDS COLLECTED
Ricky 	
Roy 	

How many blocks does Ricky have? How about Roy? Do they have the same number of blocks?

How many flats does Ricky have? How about Roy? Do they have the same number of flats? Who has more flats?

B Understand How to Compare Numbers Using Symbol

Now, let us compare the two numbers by their digits.

	Th	H	T	O
Ricky	1	5	2	6
Roy	1	2	6	8

SAME
5 > 2

What can you say about their digits in the thousands place?

What about their digits in the hundreds place?

Which digit in the hundreds place is greater?

So, 1 526 is **greater than** 1 269. In symbol, it is written as **1 526 > 1 269**. On the other hand, 1 269 is **less than** 1 526. In symbol, it is written as **1 269 < 1 526**. Therefore, Ricky collected more rubber bands than Roy.

In comparing numbers, we use the following symbols: > for “**greater than**”, < for “**less than**”, and = for “**equal to**”. When one number is smaller than the other number, we use the “less than” sign (<). When one number is bigger than the other number, we use the “greater than” sign (>). When the two numbers are equal or the same, we use the “equal to” sign (=).

MORE EXAMPLES

1. Compare 4 267 and 4 276

Th	H	T	O
4	2	6	7
4	2	7	6

SAME
SAME
6 < 7

Therefore, 4 267 is **less than** 4 276
or **4 267 < 4 276**

2. Compare 6 722 and 6 522

Th	H	T	O
6	7	2	2
6	5	2	2

SAME
7 > 5

Therefore, 6 722 is **greater than** 6 522
or **6 722 > 6 522**

3. Compare 5 193 and 5 193

Th	H	T	O
5	1	9	3
5	1	9	3

SAME
SAME
SAME
SAME

Therefore, 5 193 is **equal to** 5 193 or **5 193 = 5 193**

SAQ-1: How do we compare numbers?

SAQ-2: What symbols do we use in comparing numbers?

Let's Practice!

(Write your answers on separate sheets.)



ACTIVITY 1

Directions: Compare the given set of numbers. Write <, >, or = inside the circle.

1.

Th	H	T	O
	8	4	9
	9	7	2

849 ○ 972

2.

Th	H	T	O
3	9	3	9
3	3	3	9

3939 ○ 3339

3.

Th	H	T	O
2	3	0	8
2	3	0	8

2308 ○ 2308

4.

Th	H	T	O
2	9	8	3
2	8	9	3

2983 ○ 2893

5.

Th	H	T	O
	2	9	7
1	2	9	7

297 ○ 1297

ACTIVITY 2

Directions: Compare the given set of numbers. Write <, >, or = on the space provided.

1. 350 305 3. 2 431 1 234 5. 2 844 2 844
 2. 2 398 3 298 4. 1 657 1 567

REMEMBER

Key Points

- In comparing numbers, you need to compare them according to their place value starting from the leftmost digit. The higher the place value of the digit in the leftmost of the given number is the greater the number.
- If the two numbers have the same place value in their leftmost digit, compare their digits. The higher the digit is the greater the number.
- But, if the two numbers being compared have the same digit and the same place value in the leftmost digit, continue comparing until the last given digit. For instance, in comparing numbers up to thousands place value, start comparing the digits in the thousands, hundreds, tens, then ones place value.
- In comparing numbers, we use the following symbols:
 > for "greater than", < for "less than", and = for "equal to".
- When one number is smaller than the other number, we use the "less than" sign (<).
- When one number is bigger than the other number, we use the "greater than" sign (>).
- When the two numbers are equal or the same, we use the "equal to" sign (=)

TRY

Let's see how much you have learned today!

General Directions: Study the following assessments carefully and write your answers on separate sheets.

Assessment 1

Directions: Compare the given set of numbers. Write <, >, or = inside the circle.

1.

Th	H	T	O
	2	3	4
	3	2	4

234 ○ 324

2.

Th	H	T	O
2	3	4	2
3	2	4	3

2342 ○ 3243

3.

Th	H	T	O
1	1	2	8
1	0	2	8

1128 ○ 1028

4.

Th	H	T	O
4	2	6	5
4	2	6	5

4265 ○ 4265

5.

Th	H	T	O
7	2	3	8
1	2	3	8

7238 ○ 1238

Assessment 2**Directions:** Compare the given set of numbers. Write $<$, $>$, or $=$ on the space provided.

- 1.) 848 ____ 484 3.) 576 ____ 6 760 5.) 4 022 ____ 4 220
 2.) 1 394 ____ 1 394 4.) 2 294 ____ 2 249


Assessment 3**Directions:** Write $<$, $>$, or $=$ to make the number sentence correct.


- 1.) 210 ____ 201 3.) 2 298 ____ 2 298 + 2 5.) 7 204 ____ 7 200 + 4
 2.) 3 827 ____ 3 728 4.) 5 120 ____ 5 120 + 5

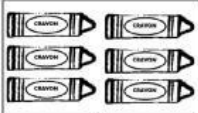
Lesson 3: Ordering Numbers up to 10 000**A Understand Ordering Numbers**

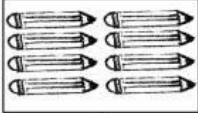
Study each set of pictures in SET A. Count the number of objects in each box.

SET A


3


5


6

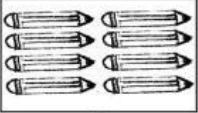

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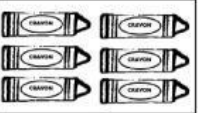
- What have you noticed on the arrangement of numbers? How are they arranged?


The numbers are arranged in **increasing order**. It starts with the least number and ends with the greatest number.


Study each set of pictures in SET B. Count the number of objects in each box.

SET B


8


6


5


3

- What have you noticed on the arrangement of numbers? How are they arranged?

The numbers are arranged in **decreasing order**. It starts with the greatest number and ends with the least number.

B Understand How to Order 4 to 5-digit Numbers

There are two ways of arranging numbers. Arranging numbers can be done from least to greatest (**increasing order**) or from greatest to least (**decreasing order**).

EXAMPLE 1:

Study the set of numbers below.

6 276

1 246

7 125

3 418

- Are the given sets of numbers arranged in order?
 - No. They are not arranged in order.
- How are you going to arrange these given sets of numbers in **increasing order**?

STEPS	EXAMPLE
STEP 1: look at the place value or the number of digits given. The lower the place value or the number of digits given, the lower the number.	In the example above, all the given numbers are up to the thousands place value; or each of them consists 4 digits.
STEP 2: If all the given set of numbers has the same place value or the same number of digits, arrange them by comparing the value of the digits starting from the leftmost. The number with the lowest digit in the leftmost is the least number.	Remember that you are going to arrange the given set of numbers in increasing order . It means that you are going to arrange the numbers from least to greatest . Now, look at the digits in the leftmost (thousands place value). The digits are 6, 1, 7, and 3. Arrange these digits from least to greatest. 1 is the lowest digit in the thousands place. Followed by 3, 6, and 7.

- Therefore, least to greatest or increasing order 1 246 is the least number followed by 3 418, Then, 6 276, and lastly, 7 125.

<u>6</u> 276	<u>1</u> 246	<u>7</u> 125	<u>3</u> 418
3 rd	1 st	4 th	2 nd

- The set of numbers below are now arranged in **increasing order**. The arrangement of this given set of numbers is from least to greatest.

1 246

3 418

6 276

7 125

EXAMPLE 2:

Study the set of numbers below.

6 276

1 246

7 125

3 418

- Are the given sets of numbers arranged in order?
 - No. They are not arranged in order.

- How are you going to arrange this given set of numbers in **decreasing order**?
 - Follow the same steps from the given example above. But this time, you are going to arrange the digits in the thousands place from greatest to least.
 - The digits are 6, 1, 7, and 3. Arrange these digits from greatest to least.
 - 7 is the greatest digit in the thousands place. Followed by 6, 3, and 1.
- Therefore, 7 125 is the greatest number followed by 6 276. Then, 3 148 and lastly, 1 246.

<u>6</u> 276	<u>1</u> 246	<u>7</u> 125	<u>3</u> 418
2 nd	4 th	1 st	3 rd

- The set of numbers below are now arranged in **increasing order**. The arrangement of this given set of numbers is from least to greatest.

7 125	6 276	3 418	1 246
-------	-------	-------	-------

EXAMPLE 3:

Study the set of numbers below.

4 378	2 134	10 000	4 256	2 195
-------	-------	--------	-------	-------

- Are the given sets of numbers arranged in order?
 - No. They are not arranged in order.
- How are you going to arrange these given sets of numbers in **increasing order**?

How are you going to arrange these given sets of numbers in increasing order?

STEPS	EXAMPLE										
<p>STEP 1: look at the place value or the number of digits given.</p> <p>The lower the place value or the number of digits given, the lower the number.</p>	<p>In the example above, 4 of the given numbers have the digits that go to the thousands place value. While 1 of the given numbers goes up to ten thousand.</p> <p>The number with highest number of digits is the greatest number in the given set. Therefore, 10 000 is the greatest number so, you may exclude 10 000 in your list as it should come last.</p> <table><tr><td>4 378</td><td>2 134</td><td>10 000</td><td>4 256</td><td>2 195</td></tr><tr><td></td><td></td><td>5TH</td><td></td><td></td></tr></table>	4 378	2 134	10 000	4 256	2 195			5 TH		
4 378	2 134	10 000	4 256	2 195							
		5 TH									
<p>STEP 2: If all the given set of numbers has the same place value or the same number of digits, arrange them by comparing the value of the digits starting from the leftmost.</p> <p>The number with the lowest digit in the leftmost is the least number.</p>	<p>Remember that you are going to arrange the given set of numbers in increasing order. It means that you are going to arrange the numbers from least to greatest.</p> <p>Now, look at the digits in the leftmost (thousands place value). The digits are 4, 2, 4, and 2. Arrange these digits from least to greatest.</p> <p>Notice that two of which are the same and the other two numbers also have the same digit. The lowest digit in the thousands place is 2 and 2 134 and 2 195 have 2 in the thousands place. So, they can only be either the 1st or 2nd number in the list while 4 378 and 4 256 will either be the 3rd and 4th number in the list.</p>										

REMEMBER

Key Points

- Arranging numbers can be done in two ways. You can arrange the numbers either in **increasing order** or **decreasing order**.
- **Increasing order** is the arrangement from least to greatest.
- **Decreasing order** is the arrangement from greatest to least.
- In arranging numbers, you need to identify first the number of digits of the given numbers in a set. The lesser the number of digits, the smaller the number.

When all the numbers in a set have the same number of digits, start comparing the digits from left to right. The lesser the digits the smaller the number.

TRY

Let's see how much you have learned today!

General Directions: Study the following assessments carefully and write your answers on separate sheets.

Assessment 1

Directions: Arrange the given set of numbers in **increasing order** from left to right.

1.) 2 489	5 942	3 847	6 979	1 397
_____	_____	_____	_____	_____
2.) 7 283	5 228	5 128	4 281	9 223
_____	_____	_____	_____	_____
3.) 4 188	6 392	4 288	3 739	2 476
_____	_____	_____	_____	_____
4.) 5 879	5 232	5 245	5 387	5 673
_____	_____	_____	_____	_____
5.) 7 272	8 215	4 263	3 273	4 276
_____	_____	_____	_____	_____

Assessment 2

Directions: Arrange the given set of numbers in **decreasing order**.

1.) 4 291	4 287	4 286	4 242	4 227
_____	_____	_____	_____	_____
2.) 4 886	4 208	4 428	4 363	4 103
_____	_____	_____	_____	_____
3.) 7 029	6 221	7 169	6 667	10 000
_____	_____	_____	_____	_____
4.) 4 289	5 299	3 286	6 289	3 275
_____	_____	_____	_____	_____
5.) 6 297	3 286	6 287	9 289	3 298
_____	_____	_____	_____	_____

Assessment 3

Directions: Arrange the given set of numbers based on the order before the number. Label the numbers 1, 2, 3, and 4 following the suggested order.

<u>6 921</u>	<u>8 223</u>	<u>5 829</u>	<u>4 271</u>	<u>2 594</u>	<u>3 807</u>	<u>3 120</u>	<u>1 479</u>	<u>1 347</u>
I	L	O	V	E	M	A	T	H

Example:

DESCENDING

3 120

2

3 807

1

1 347

4

1 479

3

ASCENDING

1. 3 120

8 223

2 594

1 347

ASCENDING

2. 5 829

8 223

1 497

6 921

DESCENDING

3. 8 223

3 120

6 921

1 347

ASCENDING

4. 3 807

3 120

1 479

2 594

DESCENDING

5. 2 594

4 721

6 921

8 223

REFERENCE/S	Ofelia G. Chingcuangco et. al., <i>Mathematics 3 Teacher's Guide</i> Pasig City: REX Book Store, Inc., 2017, 16-27	
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