

7th Math Cycle 1 Checklist

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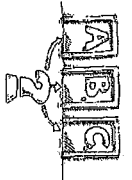
Name	Community		Date Begun		Date Complete	
	Lesson / Video w/ Mastery	Explore 1	Explore 2	Expand	Choice	Choice
Topic	Date	Title	Title	Title	Title	Date
Directions- Fill in the blanks with the listed information						
Absolute Value						
Adding Integers						
Subtracting Integers						
Multiplying Integers						
Dividing Integers						
Order of Operations						
Distributive Property						
Combining Like Terms						
Number Systems Study Guide						
Number Systems Formal Assessment						

Number Systems Part I & II

7th Math Cycle 1 Checklist





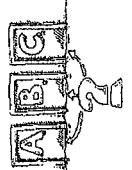
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Name _____		Community _____		Date Begun _____		Date Complete _____	
Topic	Date	Date	Title	Title	Title	Title	Date
Directions- Fill in the blanks with the listed information	Pre-Test						
Fraction/Decimal Conversions							
Adding Decimals (positive and negative)							
Subtracting Decimals (positive and negative)							
Multiplying Decimals (positive and negative)							
Dividing Decimals (positive and negative)							
Adding Fractions (positive and negative)							
Subtracting Fractions (positive and negative)							
Multiplying Fractions (positive and negative)							
Dividing Fractions (positive and negative)							
Rational Numbers							
Directions- Fill in the blanks with the listed information							
Fraction/Decimal Conversions							
Adding Decimals (positive and negative)							
Subtracting Decimals (positive and negative)							
Multiplying Decimals (positive and negative)							
Dividing Decimals (positive and negative)							
Adding Fractions (positive and negative)							
Subtracting Fractions (positive and negative)							
Multiplying Fractions (positive and negative)							
Dividing Fractions (positive and negative)							



7th Math Cycle 1 Checklist

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Name		Community			Date Begun		Date Complete	
Topic	Pre-Test	Lesson / Video w/ Mastery	Explore 1	Explore 2	Expand	Choice	Choice	Mastery Check
	Date	Date	Title	Title	Title	Title	Title	Date
Directions- Fill in the blanks with the listed information								
Adding Mixed Numbers (positive and negative)								
Subtracting Mixed Numbers (positive and negative)								
Multiplying Mixed Numbers (positive and negative)								
Dividing Mixed Numbers (positive and negative)								
Comparing and Ordering Numbers								
Application Problems/Word Problems								
Distributive Prop. & Combining Like Terms w/ Fraction & Dec.								
Rational Numbers Study Guide								
Rational Numbers Formal Assessment								

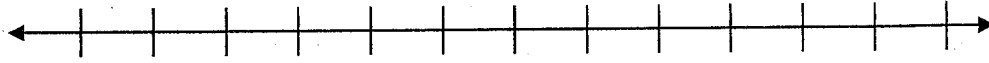
Rational Numbers

Integers and Absolute Value Notes

Name _____

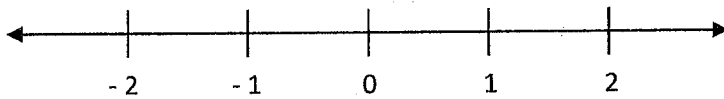
Integers: whole numbers and _____.

Also known as _____.



Absolute Value: The distance a number is from _____

Examples: $|2| =$ $|-2| =$



Because they are both 2 units away from 0



Pause the video and try these on your own!

Then press play and check your answers with a color pen

1) Place on a number line and list from least to greatest. $-6, 4, -3, 1, -5, 2$



2) What is the opposite of 10?

3) What is the opposite of $|4|$?

For questions 4 – 12, compare using $>$, $<$, or $=$. Use a number line if necessary.

4) -25 _____ 25

5) -42 _____ -40

6) -343 _____ -434

7) -33 _____ -37

8) $|-2|$ _____ 2

9) -4 _____ $|6|$

10) -4 _____ -7

11) $|-3|$ _____ $|-5|$

12) $4 + 6$ _____ $|-5| + 7$

Adding Integers Notes

Name _____

Positives:	Negatives:
1. $5 + 3$ Picture: Are the signs the same or different? Answer:	2. $-5 + (-2)$ Picture: Are the signs the same or different? Answer:
3. $8 + 1$ Picture: Are the signs the same or different? Answer:	4. $-3 + (-2)$ Picture: Are the signs the same or different? Answer:

If the integers being added are BOTH positive OR BOTH negative, you will _____ the numbers together. Then take the sign of the problem.

5. $-5 + 3$ Picture: Are the signs the same or different? Answer:	6. $5 + (-3)$ Picture: Are the signs the same or different? Answer:
7. $-7 + 3$ Picture: Are the signs the same or different? Answer:	8. $-2 + 4$ Picture: Are the signs the same or different? Answer:

When the integers being added DO NOT have the same sign (one is positive, one is negative), you will _____ the little number from the big number. Then take the sign of the "bigger" number.



**Pause the video and try the problems on the back on your own!
Then press play and check your answers with a color pen.**

1) $-4 + (-3) =$

2) $45 + 33 =$

3) $-27 + 72 =$

4) $8 + (-8) =$

5) $-5 + 13 =$

6) $6 + (-14) + 20 =$

7) John scored 6 points in a game. Then lost 3, gained 10, and lost 12. Write an addition sentence to represent this situation. Then solve.

Subtracting Integers Notes

Name _____

Method 1: Using pictures

Positives:

Negatives:

1. $5 - 3$ Picture: Answer:	2. $-5 - (-2)$ Picture: Answer:
3. $-8 - 1$ Picture: Answer:	4. $3 - (-2)$ Picture: Answer:

Method 2: Using a rule

We don't subtract... We _____ the _____
then follow the rules of addition

Examples:

1) $-8 - (-2) =$

2) $4 - (-2) =$

3) $4 - 8 =$



Pause the video and try these problems on your own!

Then press play and check your answers with a color pen.

1) $-7 - (-5) =$

2) $2 - 8 =$

3) $-40 - 66 =$

4) $-90 - (-80) - 20 =$



Add or Subtract. Remember **which** integer rule you will use!

1. $-6 + (-8) =$

2. $14 - (-5) =$

3. $-17 - 5 =$

4. $15 + 17 =$

5. $-16 - 16 =$

6. $24 - 30 =$

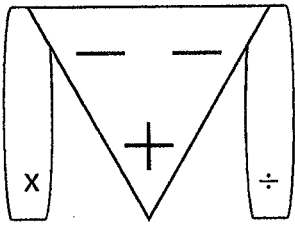
7. $-18 + 17 =$

8. $-22 + (-7) + 5 =$

9. $45 - (-3) + 4 =$

Multiplying and Dividing Integers Notes

Name _____



Cover up the sign for the integers you are dividing.

The one that is remaining is the sign of your answer.

If you have more than 2 numbers, you just do two at a time.

Examples:

1. $2(-6) =$

2. $-3 \cdot -4 =$

3. $-24 \div -6 =$

4. $18 \div 3 =$



Pause the video and try problems # 1- 6 on your own!
Then press play and check your answers with a color pen.

1. $-2(7) =$

2. $-6(-8) =$

3. $6(-2)(-3) =$

4. $-48 \div -6 =$

5. $-32 \div 8 =$

6. $55 \div 11 =$

NOTES: Exponents

- 1) Write it out in expanded form.
- 2) Solve going left to right.

Example:

1. $(-5)^4 =$

2. $(-2)^3 =$

Averages

- 1) Add the values using your integer rules.
- 2) Divide by how many values you have.

Monday	Tuesday	Wednesday	Thursday	Friday
-\$1	\$3	\$2	-\$5	\$6

What is the average price for the week?



Pause the video and try these problems on your own!
Then press play and check your answers with a color pen.

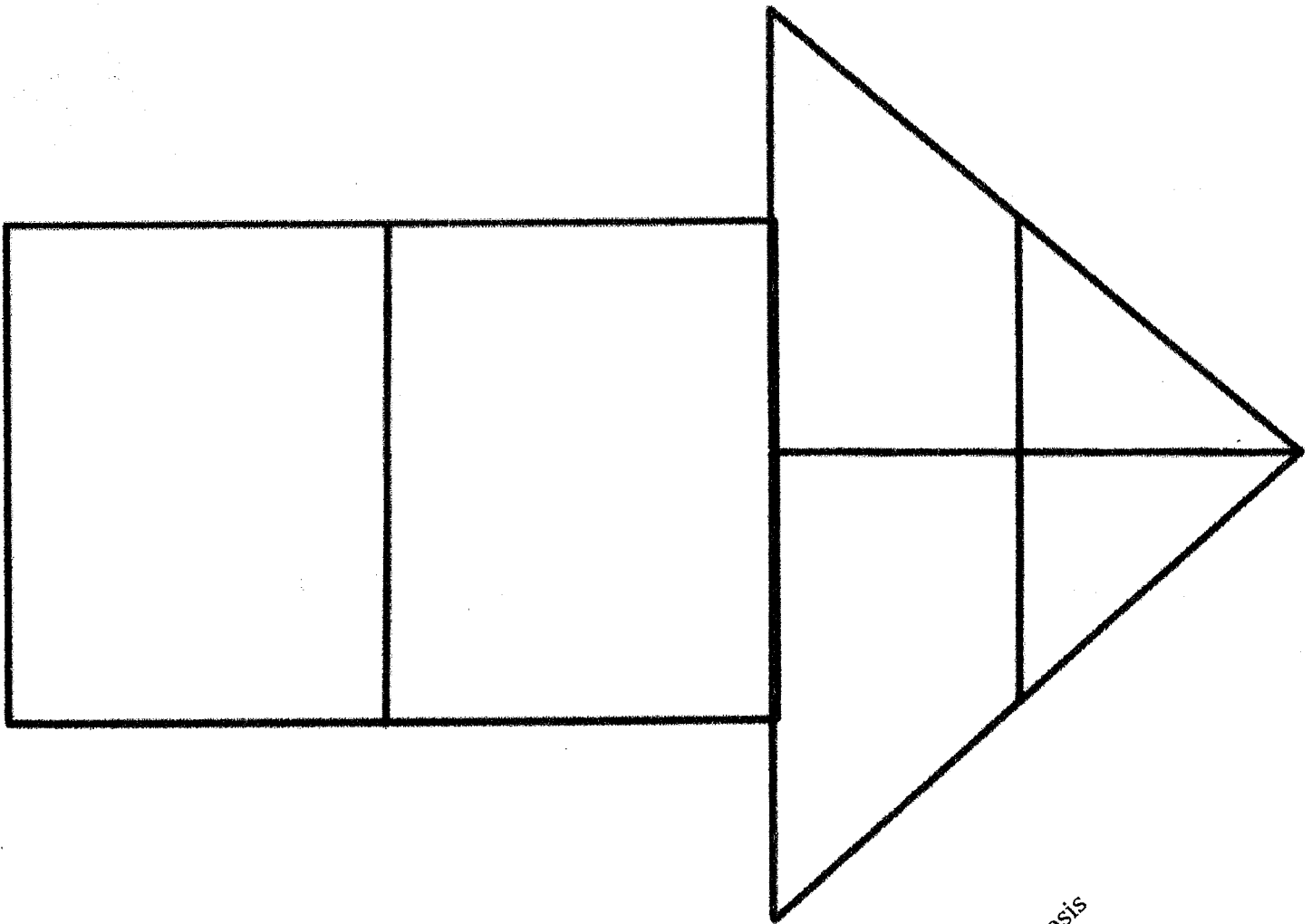
1. $(-3)^3 =$

2. $(-4)^2 =$

3. What is the average price for the week?

Monday	Tuesday	Wednesday	Thursday	Friday
-\$8	\$13	\$12	-\$7	\$10

Order of Operations: PEMDAS Guided Notes



parenthesis
brackets
braces

Please (_____) or groupings: $()$, $[]$, $\{\}$

Excuse _____: y^3

My Dear _____, (same rank, left to right)

Aunt Sally _____, (same rank, left to right)

In mathematics and computer programming, the order of operations (PEMDAS) is a rule used to clarify which procedures should be performed first in a given mathematical expression.

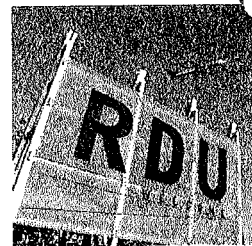
PEMDAS Practice Problems
Exponents and Order of Operations

Name: _____
Date: _____ Core: _____

Instructions: Solve each mathematical expression using the order of operations (PEMDAS) rule.

1. $30 - 18 \div 6 * 4$

2. $5^2 \div 5 (5 - 3)$



3. $6^2 + 3 * 7 - 4 + 8$

4. $45 - 2(2^5 \div 8)^2$

5. $3 + [(3 + 3)^2 - 7] \div 2$

6. $3 + 4 \div 2(6 - 4)^3$

7. $18 + 5 - 4 + 9 \div 3 - 4$

8. $(45 \div 9 * 8 \div 40)^5$

9. $\frac{(18-6)^2}{(3*4)} * 12$

10. Demarcus earns \$18/hr., Rufus earns \$17/hr., Marissa earns \$17/hr., and Juanita earns 16/hr. performing various tasks at the Triangle Mall. These four friends need \$1200 combined to pay for their four airline tickets from RDU International to Daytona Beach for Spring Break. If the boys work 15 hours and the girls work 20 hours will that be enough to pay for the tickets? Write a numerical expression for this problem and solve.

11. Jose flew a round-trip (back and forth) to Oakland from Raleigh, which was 5,600 miles, and Anita's round-trip to Dallas from Raleigh was 2,400 miles. What was the difference between flights just going one way (from RDU to their destination)?

Name: _____

CCM8

Distributive Property

Definitions

The Distributive Property	
Numerical Examples	
Mental Math Examples	

Simplify:

1. $2(5x + 3)$

2. $3(3 - 7t)$

3. $\frac{1}{2}(2m + 4)$

4. $(3x - 2)7$

4. $11(2c + 7d) - 6(c + d) + 6$

Special cases:

1. $y(3 + z)$

2. $m(m + 12)$

3. $yz^2 + y(z^2 + 7)$

Negative coefficients:

1. $-2(3x + 5y)$

2. $-10(7a - 2)$

3. $-(x + y)$

4. $-5(-y - 8)$

Distributing and combining like terms:

1. $5(6 + x) + 3x$

2. $2a - 5(a - 3)$

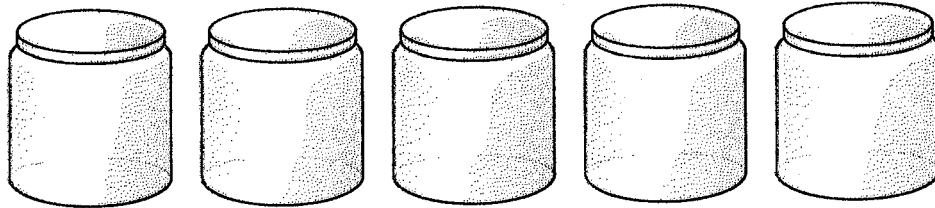
3. $3(x + y) + 7(2x + 3y)$

By the end of this lesson you will be able to _____

Example 1 - Group together the expressions that are *like terms*.

What are *like terms*? _____

$3x$ $6x^2$ y -7 4^2 $-2x$ $9y$ 8 $8y^3$



Example 2 - Simplify the expression by combining like terms

$3x$ $7y$ 8 $9y$ 12

What do I need to do?

- | | |
|-------|----------|
| _____ | 1. _____ |
| _____ | 2. _____ |
| _____ | 3. _____ |

Example 3 - Simplify the expression by combining like terms (with the Distributive Property)

$2(x - 3y) - 3x - y$

What do I need to do?

- | | |
|-------|----------|
| _____ | 1. _____ |
| _____ | 2. _____ |
| _____ | 3. _____ |
| _____ | 4. _____ |

Fraction & Decimal Conversion Notes

Name _____

To change a **Fraction** ▶ **Decimal**

- Divide the denominator into the numerator.

1)

2)

3)

To change a **Decimal** ▶ **Fraction**

- Say it correctly to set it up as a fraction and SIMPLIFY!

1) 0.456

2) 3.45

3) 2.005



Pause the video and try these on your own!

Then press play and check your answers with a color pen.

Convert from a fraction to a decimal

1)

2)

3)

Convert from a decimal to a fraction in simplest form.

1) 0.065

2) 5.48

3) 9.4

Example 4 - Evaluate the expression with the given values $x = -3$ and $y = 2$

What does it mean to *evaluate* an expression? _____

$$5x - y^2$$

What do I need to do?

1. _____
2. _____
3. _____

SHOWTIME - You Try!

- 1) Determine whether the terms $5x$ and $3x^2$ can be combined. Give a reason to support your answer.

Simplify the variable expressions.

2) $a - 4 + 8a - 9b$

3) $3(n - 9) - 7m$

4) $3x^2 - 8x + 10 - 4x$

Evaluate the expressions given $a = 4$, $b = -1$ and $c = 5$

5) $2a - 5b + 8$

6) $ac - b$

7) $3c^2 - 5b$

Adding Decimals Notes

Name _____

Review of Integer Rules:

- ★ If the signs are the same, you _____ and just take the sign of the numbers
- ★ If the signs are different, you _____ and take the sign of what you have more of

Steps:

- 1) _____ your decimals
- 2) Add in _____ as placeholders.
- 3) Use estimation to check if the answer is reasonable.

Examples:

1) $3.62 + 18.57$ CHECK: 2) $-9 + 3.245$ CHECK:

3) $-5.78 + (-18.3)$ CHECK: 4) $-7.25 + 12.49$ CHECK:



Pause the video and try these on your own!
Then press play and check your answers with a color pen.

1) $6.98 + 14.27$ CHECK: 2) $-8.46 + (-19.2)$ CHECK:

3) $-6.72 + 4.16$ CHECK: 4) $3.8 + (-24)$ CHECK:

5) Renee finished her first lap in the 200m freestyle event in 28.76 seconds. She completed the second lap in 29.17 seconds. What was her total time for the two laps?

Subtracting Decimals Notes

Name _____

Review of Integer Rules:

We don't subtract... We _____ the _____
then follow the rules of addition

Steps:

- 1) _____ your decimals
- 2) Add in _____ as placeholders.
- 3) Use estimation to check if the answer is reasonable.

Examples:

1) $3.62 - 18.57$

CHECK:

2) $9 - 3.245$

CHECK:

3) $-5.78 - (-18.3)$

CHECK:

4) $-12.49 - 17.25$

CHECK:



Pause the video and try these on your own!

Then press play and check your answers with a color pen.

1) $6.98 - 14.27$

CHECK:

2) $-8.46 - (-19.2)$

CHECK:

3) $-6.72 - 4.16$

CHECK:

4) $-3.8 - 24$

CHECK:

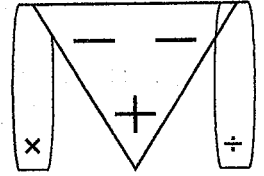
- 5) Renee finished her first lap in the 200m freestyle event in 28.76 seconds. She completed the second lap in 29.17 seconds. How much faster was her first lap?

Multiplying Decimals Notes

Name _____

Steps:

- 1) _____ as if there were no decimals.
- 2) To place your decimal in your answer, _____ the number of decimal places in your factors. Then count that many places in your answer (from _____ to _____).
- 3) You can use estimation to check if your answer is reasonable.



Examples:

1) 6×0.1

CHECK:

2) -3×3.03

CHECK:

3) $-2.78 (2.8)$

CHECK:

4) $-0.7(-0.8)$

CHECK:



Pause the video and try these on your own!

Then press play and check your answers with a color pen.

1) $9 \bullet 0.7 =$

2) $-3.4 \bullet 4.1$

3) $7.62 \bullet (-5.4)$

Check:

Check:

Check:

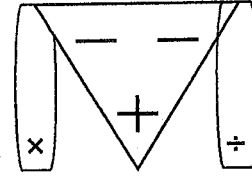
4) Dennis runs 7.2 miles per day. How far does he run in 5 days?

Dividing Decimals Notes

Name _____

Steps:

- 1) Put your problem into a "house."
 - The first number goes inside
 - The second number stands at the door
- 2) The number at the door **HAS** to be a whole number:
 - Move your decimal outside to the right
 - Move your decimal inside the same number of spaces.
- 3) Put your decimal on top of your house.
- 4) Solve.



Examples:

1) $23.8 \div 7 =$

2) $40.32 \div (-0.8) =$

3) $-45.5 \div (-0.25) =$



Pause the video and try these on your own!
Then press play and check your answers with a color pen.

1) $0.18 \div 0.002 =$

2) $0.87 \div (-3) =$

3) $-426 \div (-0.12) =$

4) Allison swam 5 sprint laps in the pool. If her times were 17.5, 19.3, 20.6, 17.4, and 16.7 seconds per lap, what was her average lap time?

Adding & Subtracting Fractions Notes

Name _____

Rule # 1: There must be a _____ . Once you have a _____ , that number will be the _____ in your _____ .

Rule # 2: If you change the _____ , you must change the _____ .

Don't forget: Integers Rules Still Apply!

Examples:

1) $\frac{3}{10} + \left(-\frac{1}{10}\right)$

2) $\frac{3}{8} + \frac{5}{12}$

3) $-\frac{1}{10} - \frac{5}{8}$

4) $-\frac{2}{3} + \frac{5}{8}$



Pause the video and try these on your own!
Then press play and check your answers with a color pen.

1)

2)

3)

4) $\frac{2}{3} - \frac{3}{4}$

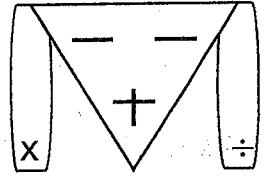
5) In one Earth year, Jupiter completes about $\frac{1}{12}$ of its orbit around the Sun, while Mars completes about $\frac{1}{2}$ of its orbit. How much more of its orbit does Mars complete than Jupiter?

Multiplying Fractions and Mixed Numbers Notes

Name _____

Steps:

- 1) If needed, change your mixed number into an _____.
- 2) If wanted, you can cross-cancel.
- 3) Multiply _____.
- 4) If needed, simplify! Your answer must be in _____.



Example:

1) _____ 2) _____

3) _____ 4) _____



Pause the video and try these on your own!
Then press play and check your answers with a color pen.

1) $-\frac{1}{8} \cdot \frac{5}{6}$

2) $\frac{1}{2} \cdot 5\frac{5}{6}$

3) $-1\frac{2}{3} \cdot -4$

4) $\frac{3}{16} \cdot -4\frac{2}{3}$

5) A recipe for clam chowder calls for $2\frac{1}{4}$ pounds of butter. If you prepare one-half of the recipe, how much butter do you need?

Dividing Fractions & Mixed Numbers Notes

Name: _____

K

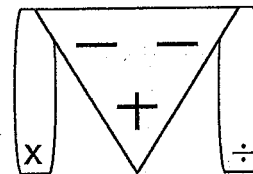
_____ the
first fraction

C

_____ to
multiplication

F

_____ the
2nd fraction
(reciprocal)



THEN... you _____ straight across

Examples:

1) $-\frac{2}{3} \div \frac{1}{5}$

2) $4\frac{1}{3} \div 2\frac{1}{2}$

3) $-4\frac{4}{5} \div -\frac{6}{7}$

4) $-2 \div \frac{1}{3}$



Pause the video and try these on your own!

Then press play and check your answers with a color pen.

1) $-8 \div \frac{4}{5}$

2) $\frac{5}{9} \div \frac{1}{8}$

3) $-\frac{3}{5} \div -6$

4) $2\frac{1}{2} \div -3\frac{1}{7}$

5) There are $5\frac{1}{4}$ yards of silk in a roll. If it takes $\frac{3}{4}$ of a yard to make one designer scarf, how many scarves can be made from the roll?

Adding Mixed Numbers Notes

Name _____

Don't forget: Integers Rules Still Apply!

Steps for Adding:

- 1) Find a _____.
- 2) Add the fractions together.
- 3) Add the whole numbers together.

If needed:

- 4) Rewrite your improper fraction as a mixed number.
- 5) Add the mixed number to the whole number (from step 3).

Examples:

1)

$$2) 1\frac{2}{15} + 7\frac{1}{6}$$

3)

4)



Pause the video and try these on your own!

Then press play and check your answers with a color pen.

$$1) \frac{5}{8} + 2\frac{3}{8}$$

2)

3)

4)

5) Compare using $<$, $>$, or $=$. _____

Subtracting Mixed Numbers Notes

Name _____

Don't forget: Integers Rules Still Apply!

Steps for Subtracting:

- 1) Find a _____.
- 2) If needed, borrow from the whole number, by taking one from the whole number and adding the denominator to the numerator.
- 3) Subtract the fractions.
- 4) Subtract the integers
- 5) Simplify always!

Examples:

1) _____ 2) _____

3) _____ 4) _____



Pause the video and try these on your own!
Then press play and check your answers with a color pen.

1) _____ 2) _____

3) _____ 4) $2\frac{2}{3} - 4\frac{3}{4}$

5) Compare using $>$, $<$, or $=$. $-2\frac{2}{7} + 3\frac{1}{3}$ _____ $-2\frac{1}{2} - \left(-2\frac{2}{7}\right)$

