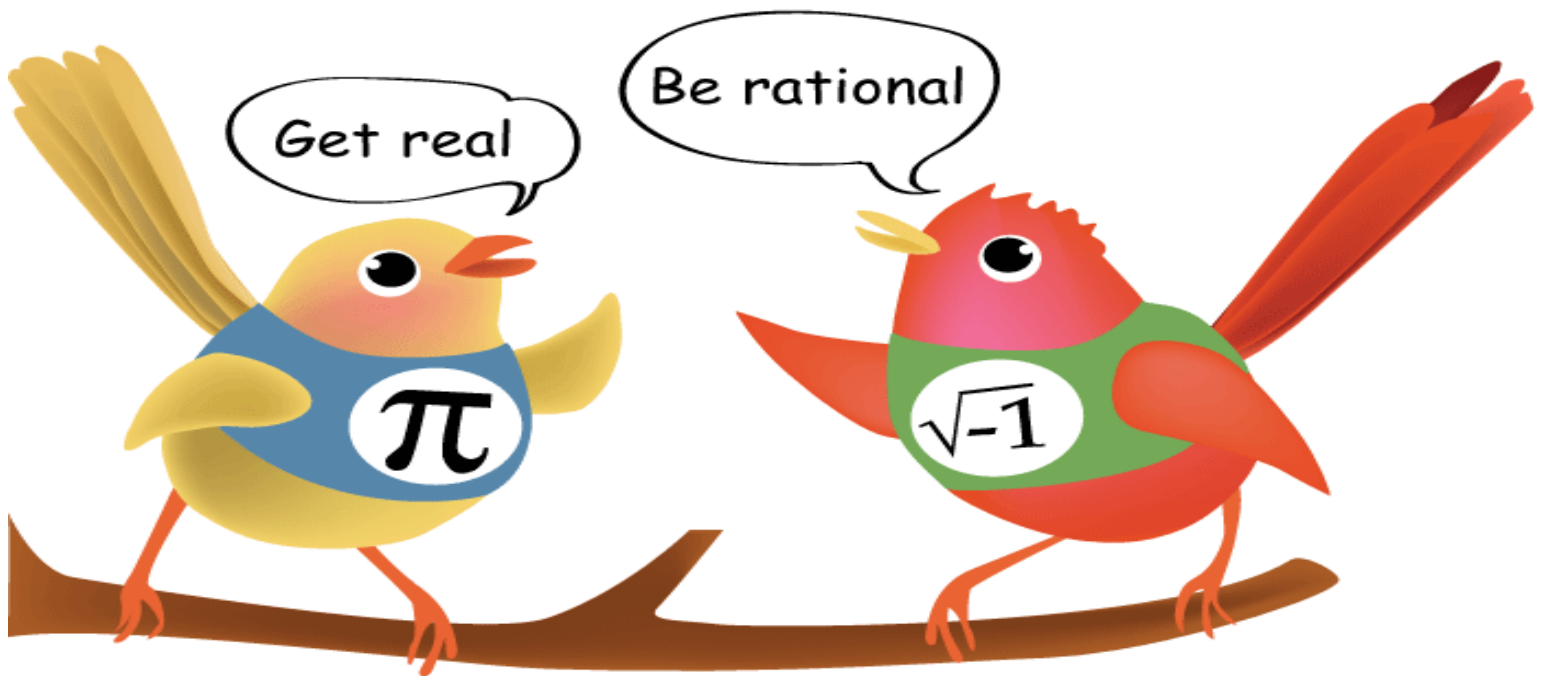


7A Unit 1: Rational Numbers

Classwork Packet

Name: _____

Class: _____



Unit 1: HW Integer Review Problems

1. $-8 + (6)$	2. $10 - -1 - 9 + 2$	3. $12(-4) * 2$
4. $16 - 2(3 - 2 * 1)$	5. $4 * -8 \div -2$	6. $-36 - 4^2 * 2$
7. $-22 - (-14) * 6$	8. $159 - (-30)$	9. $-22 + (-46)$
10. A deep-sea diver went 60 feet under the surface, and then swam up 86 feet. How many feet below the surface is the diver?	11. While playing football, Matt lost 6 yards, and then gained 20 yards, then lost 18 yards. How many yards did he gain from his three plays?	12. If you are standing at the top of a mountain 6,624 feet above sea level and there is a submarine 1,230 feet below sea level, how much higher is your elevation than the submarine?
13. $-6(-12 - 2 * 2)$	14. $-30 \div -3 * -2$	15. $48 \div -2 * 4 - 1$
16. $10 * 2 + 4$	17. $-22 \div 2 + -2$	18. $-66 \div 2 - -6$
19. $115 * 2 + 4$	20. $6 * 2 - 10$	21. $12 \div 4 - 100$
22. $\frac{1}{5} \div 1\frac{1}{4}$	23. $\frac{1}{2} \div 1\frac{3}{4}$	24. $1\frac{1}{2} * 1\frac{4}{7}$
25. $11\frac{1}{5} \div 2$	26. $2 \div 2\frac{4}{5}$	27. $2\frac{1}{9} \div 1\frac{1}{3}$
28. $1\frac{3}{10} \div 1\frac{1}{4}$	29. $1\frac{2}{5} \div 2\frac{3}{4}$	30. $2\frac{1}{4} * \frac{1}{4} + \frac{1}{4}$
31. $\frac{2}{3} * 3\frac{1}{4} + 2$	32. $2 + \frac{3}{7} * 2$	33. $2\frac{2}{3} * 1\frac{1}{10}$
34. $2\frac{1}{5} * \frac{1}{4} - .5$	35. $4\frac{1}{4} * 2$	36. $\frac{3}{7} * 1\frac{1}{3}$
37. $\frac{3}{8} * 3\frac{1}{2}$	38. $\frac{1}{2} * 1\frac{1}{4} + \frac{1}{4}$	39. $3\frac{1}{2} * 1\frac{1}{3} + \frac{1}{2}$
40. $\frac{1}{2} * 1\frac{1}{4} * 2$	41. $1\frac{1}{6} * 1\frac{1}{2} + (2 * 1)$	42. $2\frac{1}{4} * 1\frac{1}{16} + .25$
43. $(3 + 1)(4)(12 - 5)$	44. $(16) \div 2 \div (4) \div (2)$	45. $\frac{3(2)(6)}{(2)(12)}$
46. $(3 * 6) + 4 - (4 \div 2) + 8$	47. $(6 * 2) + 5 - (3 * 2 + 1)$	48. Find the distance if the temperature started at 50°F and dropped to 30°F.
49. Find the distance if the temperature started at -20°F and dropped to -30°F.	50. Find the distance if the temperature started at 60°F and dropped to -10°F.	51. Find the distance if the temperature started at 70°F and dropped to -1°F.
52. $4.2 * (2.1) - 6.7$	53. $\frac{1}{2} + \frac{4}{6} * \frac{1}{12}$	54. $12.2 \div 2 - 20.9$
55. $\frac{1}{2} + \frac{4}{9} + \frac{1}{3}$	56. $\frac{1}{2} * \frac{1}{4} - \frac{1}{3}$	57. $2\frac{1}{2} * \frac{2}{4} - \frac{1}{8}$
58. $\frac{1}{2} * \frac{2}{3} + \frac{1}{3}$	59. $\frac{1}{2} \div \frac{1}{4} - \frac{1}{4}$	60. $1\frac{1}{2} + \frac{1}{4} - \frac{1}{8}$

Aim: How can we use order of operations to solve complex problems (*Postive Numbers Day 1*)?

Warm up: What do you remember about PEMDAS?

Homework:

NOTES:



Rules For Order Of Operations

- $(4 + 1) * 2^2$ >> **PEMDAS** is used to remember order of operations.
- $7 + 2 - 3$ >> Only **addition** and **subtraction** solve from _____ to _____.
- $8 * 2 \div 3$ >> Only **multiplication** and **division** solve from _____ to _____.

Problem 1:

$$\left(1\frac{1}{2} * \frac{3}{4}\right) + \frac{1}{2}$$

Problem 2:

$$\left(\frac{1}{2}\right)^2 + \left(\frac{1}{8}\right) \div 2$$

Problem 3:

$$10 - 2^2 + (8 \div 4 * 5)$$

Problem 1: Simplify

$$\frac{1}{2} * \left(\frac{3}{4}\right) + \left(\frac{2}{3}\right)$$

Problem 2: Simplify

$$\left(\frac{1}{2}\right)^2 + \left(1\frac{1}{2} * \frac{3}{4}\right)$$

Problem 3: Simplify

$$\frac{10 - 2^2 + (8 \div 4 * 5)}{2}$$

Problem 4: Simplify

$$.75 + \frac{3}{4} - .5$$

Problem 5:

$$\left(\frac{1}{4} * \frac{3}{4}\right) + \left(\frac{1}{8} \div \frac{1}{4}\right) - 1$$

Problem 6:

$$\left(\frac{1}{2} * \frac{3}{4}\right) + \left(\frac{1}{2} \div \frac{1}{4}\right)$$

Aim: How can we use order of operations to solve complex problems (*Postive Numbers Day 2*)?

Warm up: $4 * 2 - 5$

Homework:

NOTES:



Rules For Order Of Operations

- $(4 + 1) * 2^2$ » **PEMDAS** is used to remember order of operations.
- $7 + 2 - 3$ » Only **addition** and **subtraction** solve from _____ to _____.
- $8 * 2 \div 3$ » Only **multiplication** and **division** solve from _____ to _____.

Problem 1:

$$120 - 5^2 + (28 \div 4 * 5) - 20$$

Problem 2:

$$\left(\frac{1}{4}\right)^2 + \left(\frac{1}{12}\right) \div 4(3 + 2)$$

Problem 3:

$$\left(1\frac{1}{2} * 1\frac{3}{6}\right) + \left(1\frac{1}{3} \div 1\frac{1}{4}\right)$$

Problem 1: Simplify

$$1\frac{1}{2} * \left(1\frac{3}{4}\right) + \left(1\frac{2}{3}\right)$$

Problem 2: Simplify

$$\left(1\frac{1}{2}\right)^2 + \left(1\frac{1}{2} * 1\frac{3}{4}\right)$$

Problem 3: Simplify

$$110 + 12^2 + (36 \div 4 * 3)$$

Problem 4: Simplify

$$\left(1\frac{1}{4} * 1\frac{3}{4}\right) + \left(1\frac{1}{8} \div 1\frac{1}{4}\right) - 1$$

Problem 5: Simplify

$$\left(1\frac{1}{6} * 1\frac{2}{3}\right) + \left(\frac{1}{3} \div \frac{1}{4}\right) - .5$$

Problem 6: Simplify

$$\left(1\frac{1}{2} * 1\frac{3}{4}\right) + \left(1\frac{1}{2} \div 1\frac{1}{4}\right)$$

Aim: How can we use order of operations to solve complex problems (*Postive Numbers Day 3*)?

Warm up: $4 \div 2 + 5$

Homework:

NOTES:



Rules For Order Of Operations

- $(4 + 1) * 2^2$ >> **PEMDAS** is used to remember order of operations.
- $7 + 2 - 3$ >> Only **addition** and **subtraction** solve from **left to right**.
- $8 * 2 \div 3$ >> Only **multiplication** and **division** solve from **left to right**.

Problem 1:

$$2\frac{1}{4} * \left(3\frac{3}{5}\right) + \left(3\frac{2}{3}\right)$$

Problem 2:

$$\left(1\frac{1}{6}\right)^2 + \left(2\frac{1}{12}\right) - 4\left(1\frac{1}{2}\right)$$

Problem 3:

$$\left(1\frac{1}{3} * 1\frac{3}{8}\right) + \left(1\frac{1}{12} * 1\frac{1}{2}\right)$$

Problem 1: Simplify

$$1\frac{1}{2} * \left(2\frac{3}{4}\right) + \left(2\frac{2}{3}\right)$$

Problem 2: Simplify

$$12^2 + \left(1\frac{1}{2} * 1\frac{3}{4} \div 2\right)$$

Problem 3: Simplify

$$|20 + 9^2 + (147 \div 7 * 5)|$$

Problem 4: Simplify

$$\left(1\frac{1}{4} * 1\frac{3}{4}\right) + \left(1\frac{1}{8} \div 1\frac{1}{4}\right) \div \left(\frac{1}{2} * 2\right)$$

Problem 5: Simplify

$$\left(1\frac{1}{4} * 2\frac{3}{4}\right) + \left(1\frac{1}{8} \div 2\frac{1}{4}\right) \div \left(\frac{1}{2} * \frac{1}{4}\right)$$

Problem 6: Simplify

$$\frac{\left(1\frac{1}{2} * 1\frac{3}{4}\right) + \left(1\frac{1}{2} \div 1\frac{1}{4}\right)}{\frac{1}{2}}$$

Aim: How can we use order of operations to solve complex problems (*Postive Numbers Day 4*)?

Warm up: $3 * 2 - 4$

Homework:

$$\frac{a}{\frac{b}{c}} \rightarrow \frac{a}{b} \div \frac{c}{1} \rightarrow \frac{a}{b} * \frac{1}{c} = \frac{a}{bc}$$

NOTES:

Rules For Order Of Operations With Complex Fractions $\left(\frac{2^2+4}{2-4}\right)$

1. Simplify the _____.
2. Simplify the _____.
3. Divide.

Problem 1:

$$\frac{\frac{1}{4} * \left(4\frac{1}{5}\right) + \left(2\frac{2}{3}\right)}{1\frac{1}{2}}$$

Problem 2:

$$\frac{\frac{1^2}{4} * \left(2\frac{1}{5}\right) + \left(\frac{2}{3}\right)}{1\frac{1}{2}}$$

Problem 3:

$$\frac{\left(1\frac{1}{3} * 1\frac{3}{8}\right) + \left(1\frac{1}{12} \div 1\frac{1}{2}\right)}{2 * 2 + (8 \div 2)}$$

Problem 1: Simplify

$$\frac{\frac{1}{2} * \left(\frac{3}{4}\right)}{4}$$

Problem 2: Simplify

$$\frac{12^2 + \left(1\frac{1}{2} * 1\frac{3}{4}\right)}{2}$$

Problem 3: Simplify

$$\frac{110 + 12^2 + (36 \div 4 * 3)}{\frac{1}{4}}$$

Problem 4: Simplify

$$\frac{\left(1\frac{1}{4} * 1\frac{3}{4}\right) + \left(1\frac{1}{8} \div 1\frac{1}{4}\right)}{4 * 2 \div \frac{1}{2}}$$

Problem 5: Simplify

$$\frac{\left(1\frac{1}{2} * 1\frac{3}{8}\right) + \left(\frac{1}{2} \div \frac{1}{4}\right)}{\frac{1}{2} * \frac{1}{3}}$$

Problem 6: Simplify

$$\frac{\left(1\frac{1}{2} * 1\frac{3}{4}\right) + \left(1\frac{1}{2} \div 1\frac{1}{4}\right)}{\frac{1}{2} + \frac{1}{3} \div 2}$$

Aim: How do we use absolute value?

Warm up: Where do you see number lines in real life?

Homework:



NOTES:

$$|4| = 4$$

Absolute Value - _____

Rules For Absolute value

- The symbol for absolute value is _____.
- The answer to absolute value is always *** _____ ***

Problem 1: The current temperature is -35°F . At night the temperature dropped $32\frac{1}{4}^{\circ}\text{F}$. How far below zero is the current temperature?

Problem 2: The highest temperature in Italy was 117°F . The lowest temperature was -46°F . What is the difference in the temperatures?

Morgan said the difference was 71° . Do you agree with her reasoning? Justify.

Problem 3: The highest temperature in the United States one day was 87°F . The lowest temperature that day was -26°F . What is the distance between these temperatures on a thermometer?

Problem 1: Simplify.

$$-\left|1\frac{1}{4}-\frac{2}{3}\right|=x$$

Problem 2: The temperature was $-16^{\circ}F$. At night the temperature dropped $10.5^{\circ}F$. How far below zero is the current temperature?

Problem 3 A diver dives 30.5 feet below sea level. Then swam 17.8 feet towards the surface. How far from the surface is the diver?

Problem 4: The highest temperature in June in the United States was $87^{\circ}F$. The lowest temperature in June was $-16^{\circ}F$. What is the difference between the highest temperature and the lowest temperature in June?

Problem 5: When salt is added to boiling water it increases the temperature by $\frac{1}{9}^{\circ}C$ per hour. If the water was $-5^{\circ}C$ and boiled for 5 hours, Sara said the water would be 4 degrees from zero, do you agree with her reasoning? Justify.

Problem 6: If the temperature drops at a rate of $\frac{1}{8}^{\circ}C$ per hour at night in the winter, how far below zero would the thermometer be if the outside temperature was $-30^{\circ}C$ and was taken again 3 hours later. Justify your answer using mathematical terminology.

Aim: How do apply the rules for positive and negative numbers (*Day 1*)?

Warm up: $\frac{1}{4} - \frac{2}{3}$

Homework:

NOTES:

Same Signs **ADD**- keep the **SIGN**

- SSA

Different Signs **SUBTRACT**- keep **LARGER SIGN**

- DSS

Addition Rule

1) When the signs are the same, ADD and keep the sign.
 $(-2) + (-4) = -6$

2) When the signs are different, SUBTRACT and use the sign of the larger number.
 $(-2) + 4 = 2$
 $2 + (-4) = -2$

Problem 1: Simplify:

$$-\frac{1}{4} - 1\frac{1}{2}$$

Problem 2: Simplify:

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

Mike says the answer is $5\frac{7}{10}$. Do you agree with his reasoning? Justify.

Problem 3: Colin account was **overdrawn by \$1,000.45**. He made the following transactions.

Withdrew	65.20
Automatic Debit	102.75
Check Deposit	33.65
Paid Utility Bill	94.33

What is Colin's current bank account balance?

What advice would you give to Colin about his bank account? Justify.

Problem 1: Simplify:

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

Problem 2: Simplify in fractional form.

$$\frac{2}{5} - .75 + .4 - \frac{3}{4}$$

Problem 3: A dance competition deducts $1\frac{1}{7}$ points for each error made during a routine. If a perfect routine has a maximum score of 30 points, how many points would Morgan received if she made 13 errors during her routine?

Problem 4: Simplify in decimal form.

$$\frac{3}{50} - 1.35 + .14 - \frac{1}{25}$$

Problem 5 Dawn's account was 52.75. She made the following transactions.

Bill Pay	225.20
Direct Deposit	450.00
Cash Deposit	113.75
Lease Payment	194.33

How much money does Dawn have left in her bank account after completing all the transactions? Justify.

Problem 6: Best Market sells fruit by the pound. The prices are shown below.

Type of Fruit	Price per Pound
Grapes	\$4.50
Apples	\$3.25
Bananas	\$4.85

How much more money would Sara spend if she bought $2\frac{1}{4}$ pounds of grapes instead of $2\frac{1}{4}$ pounds of apples. Justify.

Aim: How can we multiply and divide positive and negative numbers?

Warm up: What are the rules for multiplying and dividing decimals and fractions?

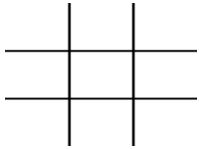
Homework:

NOTES:

Rules for Multiplying and Diving Integers

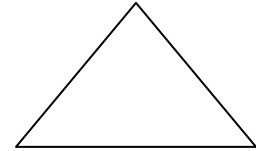
- **Same signs** are always _____
- **Different signs** are always _____

Strategy: Tic- Tac- Toe



Strategy: Smiley Faces

Strategy: Triangle



Problem 1: $-3\frac{1}{2} * 1\frac{1}{3}$

Problem 2: $-2\frac{1}{2} \div -1\frac{1}{8}$

Danny says the answer is $2\frac{13}{16}$. Do you agree with his reasoning? Justify.

Problem 3: Sara needs to make bows for her friends birthday party. She bought $8\frac{1}{2}$ yards of ribbon from the store. Each bow take $1\frac{1}{4}$ yards of ribbon, how many bows can Sara make?

Part B: How much leftover ribbon would Sara have? Justify.

Problem 1: Simplify:

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

Problem 2: Simplify:

$$-.05 * -\frac{3}{4}$$

Problem 3: Simplify:

$$1\frac{1}{2} * -2\frac{3}{4}$$

Problem 4: Ticketmaster earned \$116,625 in revenue off the sale of 1,350 concert tickets. The total expense to rent MetLife Stadium was \$118,432. How much did each ticket cost Ticketmaster?

Problem 5: Mike needs to make a doghouse. He bought a piece of wood that is $8\frac{3}{4}$ feet long and needs to cut the wood into pieces that are $1\frac{1}{2}$ feet long for the roof.

Part A: How many pieces of wood could Mike cut?

Part B: How much leftover wood would Mike have?

Part C: How many pieces of wood would Mike need if he needs $17\frac{1}{2}$ ft pieces? Justify your answer.

Problem 6: Best Market sells fruit by the pound. The prices are shown below.

Type of Fruit	Price per Pound
Grapes	\$3.50
Apples	\$4.25
Bananas	\$3.85

Steven has \$17 to spend. He buys $1\frac{1}{4}$ pounds of grapes and 2.75 pounds of apples. How much money will Steven have left after he pays? Justify your answer using mathematical terminology.

Aim: How do you apply the rules for positive and negative numbers (Day 2)?

Warm up: What are the rules for multiplying integers?

Homework:

NOTES:

Multiplying and Dividing Positive & Negative Numbers

- **Same signs** are always **POSITIVE**
- **Different signs** are always **NEGATIVE**



DOUBLE NEGATIVE

Rules For Double Signs with Positive & Negative Numbers

- Circle Both signs
- **Two Negatives** become _____.
- **Different signs** become _____.

Problem 1: Simplify:

$$1\frac{1}{4} - \left(-\frac{1}{12}\right)$$

Problem 2: Simplify:

$$2\frac{1}{8} + \left(-4\frac{1}{3}\right)$$

Sara says the sum is positive. Do you agree with her reasoning? Justify.

Problem 3: John said the answer to the following expression is $-5\frac{17}{21}$. What error did John make when calculating his answer? Justify.

$$-2\frac{1}{7} - \left(-3\frac{2}{3}\right)$$

Problem 1: Simplify:

$$3\frac{1}{2} - \left(-2\frac{3}{4}\right)$$

Problem 2: Simplify:

$$\frac{1}{2} + \left(-1\frac{1}{4}\right)$$

Problem 3: Bobby dove $10\frac{1}{2}$ feet towards the ocean floor. He then swam $4\frac{3}{4}$ feet towards the surface. How far below sea level would Bobby be?

Problem 4: Mike needs 508 spoons for a birthday party. If Mike already has 300 spoons and each set contains 16 spoons, what is the minimum number of sets he needs to purchase to have enough spoons for the party?

Part B: How could you solve this problem another way?

Problem 5: Kathy's account balance at the beginning of the month was $-\$1,987.25$. During the month the following deposits and withdrawals were posted.

$\$35.50, \$69.80, -\$20.08, \$200.00, \$1,000.00$

What is Kathy's bank account balance at the end of the month? Justify.

Problem 6: Sara starts to buy the items at the grocery store. She buys the following items.

2 packages of chicken at \$12.36 per pack
0.5 pound of asparagus at \$1.98 per pound
1 gallon of Orange Juice priced \$3.49 per gallon

There is no sales tax on the food. She pays and receives \$0.80 as change. What amount of money does she use to pay for the items? Explain what steps you took to arrive at your answer.

Aim: How can we use order of operations to solve complex problems (*Negatives Day 1*)?

Warm up: What do you remember about PEMDAS?

Homework:

NOTES:



Rules For Order Of Operations

- $(4 + 1) * 2^2$ >> **PEMDAS** is used to remember order of operations.
- $7 + 2 - 3$ >> Only **addition** and **subtraction** solve from _____ to _____.
- $8 * 2 \div 3$ >> Only **multiplication** and **division** solve from _____ to _____.

Problem 1:

$$1\frac{1}{2}\left(\frac{3}{4} - 1\frac{1}{2}\right)$$

Problem 2:

$$\left(\frac{1}{2}\right)^2 + \left(-\frac{1}{8}\right) \div 2$$

Mary says the answer to the expression is negative.
Do you agree with her reasoning? Justify.

Problem 3: Paul has two different summer jobs. When he walks dogs he makes \$10.25 per hour and when he delivers pizzas he makes \$8.50 per hour. How much money will Paul earn if he works 8 hours delivering pizza and 6 hours walking dogs?

Part B: If Paul received a 25% raise per hour walking dogs, how much more money would he earn?

Problem 1: Simplify

$$\frac{1}{2} * \left(-\frac{3}{4}\right) + \left(-\frac{2}{3}\right)$$

Problem 2: Simplify

$$\left(\frac{1}{2}\right)^2 + \left(1\frac{1}{2} * -\frac{3}{4}\right)$$

Problem 3: Simplify

$$\left(-\frac{1}{2} * \frac{3}{4}\right) + \left(\frac{1}{2} \div -\frac{1}{4}\right)$$

Problem 4: Simplify

$$-.75 - -.5 - \frac{1}{4}$$

Problem 5: Mrs. Clarkson earns \$18.75 per hour for the first 35 hours she works. She earns $1\frac{1}{2}$ times that amount per hour for each hour beyond 35 hours. If Mrs. Clarkson worked 40.5 hours how much money did she earn? Justify.

Problem 6: A health deduction of \$35.55 was taken from Mrs. Clarkson's earning. After the health deduction, payroll taxes of 30% of Mrs. Clarkson's original earning were taken out. What was Mrs. Clarkson balance after the payroll taxes and health insurance were deducted from her earnings? Justify your answer using mathematical terminology.



Aim: How can we use order of operations to solve complex problems (*Negatives Day 2*)?

Warm up: $3 + 4 * 2$

Homework:

$$2 / 3 = \frac{2}{3}$$

Numerator
Denominator

NOTES:

Rules For Order Of Operations With Fractions $\left(\frac{2^2+4}{2-4}\right)$

1. Simplify the _____.
2. Simplify the _____.
3. Divide.

Problem 1:

$$\frac{\left(\frac{1}{2} - +\frac{1}{4}\right)^2}{1\frac{1}{2} * -\frac{3}{4}}$$

Problem 2:

$$\frac{\frac{1}{2} * -\left(\frac{3}{4} - \frac{1}{3}\right)}{\frac{1}{2} + -\frac{1}{4}}$$

Peter says the answer is $-\frac{3}{32}$. What mistake did he make? Justify.

Problem 3: Max picked $6\frac{1}{4}$ pounds of strawberries. Cory picked $4\frac{3}{5}$ pounds of strawberries. How many $1\frac{1}{2}$ pound bags could Max and Cory make?

Part B: If Max picked 20% more strawberries, how would the total number of bags be affected?

Problem 1: Simplify

$$\frac{(1 * 2 + 3)^2}{10 \div 2 * -3}$$

Problem 2: Simplify

$$\frac{\frac{1}{2} * \frac{3}{4}}{1\frac{1}{2} + -\frac{2}{4}}$$

Problem 3: Simplify

$$\frac{\left(-\frac{1}{2} * \frac{3}{4}\right)}{-\frac{1}{3}\left(\frac{1}{2} \div -\frac{1}{4}\right)}$$

Problem 4: Simplify

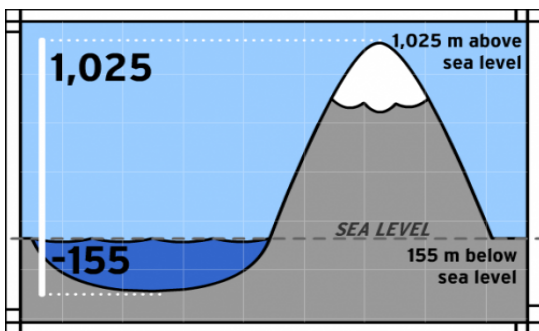
$$\frac{\left(\frac{1}{2} * \frac{3}{4}\right) * 2}{\frac{1}{2} - -1\frac{1}{4}}$$

Problem 5: Susan makes \$15 per hour working at a deli. She spent $1\frac{1}{2}$ hours cleaning, $2\frac{2}{3}$ hours cooking and $3\frac{5}{12}$ hours helping customers. How much money will Susan make at the end of the day? Justify.

Part B: If Susan made 25% more per hour for cleaning and cooking, how much more money would she earn by the end of the day?



Problem 6: Mike hiked from the top of the hill to the valley floor. The elevation was 1,025 m above sea level. Mike stopped at a rest area, which is exactly halfway between the top of the hill and the valley floor. Could the elevation be 590 m, Justify your answer using mathematical terminology?



Valley Floor is the floor of the ocean

Aim: How can we use order of operations to solve complex problems (*Negatives Day 3*)?

Warm up: $\frac{\frac{1}{2}}{\frac{3}{2}}$?

$$\frac{\frac{a}{b}}{c} \longrightarrow \frac{a}{b} \div \frac{c}{1} \longrightarrow \frac{a}{b} * \frac{1}{c} = \frac{a}{bc}$$

Homework:

NOTES:

Rules For Order Of Operations With Complex Fractions $\left(\frac{2^2+4}{2-4}\right)$

4. Simplify the _____.
5. Simplify the _____.
6. Divide.

Problem 1:

$$\frac{\left(-1\frac{1}{4}\right)\left(\frac{1}{7}\right)}{\frac{1^2}{2}}$$

Problem 2:

$$\frac{\left(-\frac{2}{3} * -\frac{1}{4}\right)^2}{\frac{1}{4}}$$

Danny says the answer is $\frac{2}{3}$. Do you agree with his reasoning? Justify.

Problem 3: Sara mixes $4\frac{3}{4}$ gallons of red paint with $1\frac{1}{2}$ gallons of white paint. How many 3-gallon paint cans could she fill? Justify your answer.

Problem 1: Simplify

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

Problem 2: Simplify

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

Problem 3: Simplify

$$\frac{-\frac{1}{4} - \frac{1}{2}(\frac{1}{4} \div \frac{1}{5})}{-\frac{3}{7}}$$

Problem 4: Simplify

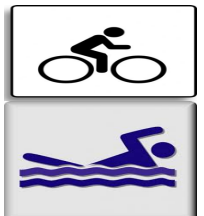
$$\frac{-\frac{1}{3} - (-1\frac{1}{4}) + (-\frac{1}{2})}{(-\frac{1}{4})(\frac{1}{2})}$$

Problem 5: Danielle and Morgan work at an ice cream store. Danielle scoops ice cream at a rate of $6\frac{1}{4}$ pounds per day. Morgan scoops ice cream at a rate of $5\frac{1}{8}$ pounds per day. After 7 days, how many more pounds of ice cream did Danielle scoop than Morgan? Justify.

Part B: How would your answer change if Morgan scooped 25% less per day and Danielle scooped 35% more per day?

Problem 6: Last week Mike Biked $5\frac{3}{5}$ miles per day on each of the 7 days. During the same week he swam $6\frac{3}{4}$ miles per day for 5 days. What was the total number of miles Mike swam and biked last week?

- If Mike burns 100 calories per mile, how many calories would he have burned last week? Justify your answer using mathematical terminology.



Aim: How can we use order of operations to solve complex problems (*Negatives Day 4*)?

Warm up: $\frac{2}{4}$

Homework:

$$\frac{a}{\frac{b}{c}} \rightarrow \frac{a}{b} \div \frac{c}{1} \rightarrow \frac{a}{b} * \frac{1}{c} = \frac{a}{bc}$$

NOTES:

Rules For Order Of Operations With Complex Fractions $\left(\frac{2^2+4}{2-4}\right)$

1. Simplify the _____.
2. Simplify the _____.
3. Divide.

Problem 1:

$$\frac{-\frac{1}{4} - \left(-4\frac{1}{4}\right)\left(\frac{1}{2}\right)}{-1\frac{1}{2}}$$

Problem 2:

$$\frac{1^2 - \left(\frac{1}{4} * -\frac{3}{8}\right)}{-\frac{1}{5}}$$

Jackson said the answer was $\frac{5}{32}$. Do you agree with his reasoning? Justify.

Problem 3: Mike has to read a 500-page book for class. During class he read 282 pages of his book. If Mike reads 20 pages a day, how many days will it take Mike to finish his book?

Problem 1: Simplify

$$\frac{\frac{1}{12} - 2\left(-\frac{2}{3}\right)}{-4}$$

Problem 2: Simplify

$$\frac{(-2)^2 + \left(-1\frac{1}{2} * 1\frac{3}{4}\right)}{2 + (2 - 4 * 2)}$$

Problem 3: Simplify

$$\frac{110 + 12^2 + (36 \div -4 * -3)}{-\frac{1}{4}}$$

Problem 4: Simplify

$$\frac{\left(1\frac{1}{2}\right)\left(-2\frac{3}{4}\right) - \left(-2\frac{2}{3}\right)}{4}$$

Problem 5: The width of a rectangle is $6\frac{2}{3}$ inches. The length of the rectangle is double the width.

Part A: What is the perimeter of the rectangle? Justify your answer.

Part B: If the rectangle's dimensions were tripled in part a, calculate how much larger the new rectangle's area is compared to the original area of the rectangle.

Problem 6: A pile of magazines in a doctor's office was $18\frac{3}{4}$ inches high. Each consecutive week, for the next 7 weeks, the height of the pile increased by $9\frac{7}{12}$ inches. What was the height of the pile after 5 weeks? Justify your answer.



