Unit 1: Rational Numbers Study Guide

Adding and Subtracting Fractions

Fill in the blank:

Steps to Add and Subtract Fractions

1. Find the \_L\_ \_C\_ \_M\_ of the\_\_denominators\_\_\_.
2. Rewrite fractions using \_\_\_common\_\_\_ denominators.
3. Add/Sub \_\_\_\_numerators\_\_\_\_\_\_.
4. ALWAYS \_\_\_Reduce\_\_\_\_\_\_.

Evaluate the expressions (SHOW ALL WORK):

|  |  |
| --- | --- |
| 1. $\frac{1 }{2 }+ \frac{3}{5}=$$1\frac{1}{10}$
 | 6. $\frac{7}{12}-\frac{3}{8}=$$\frac{5}{24}$ |
| 2. $\frac{5}{13}+\frac{2}{3}=$$1\frac{2}{39}$ | 7. $\frac{4}{15}-\frac{11}{20}=$$-\frac{17}{60}$ |
| 3. $\frac{11}{15}+(-\frac{2}{5})=$$\frac{1}{3}$ | 8. $\frac{1}{12}\_{}+\frac{1}{12}=$$\frac{1}{6}$ |
| 4. $6\frac{1}{2}+\frac{7}{9}=$$7\frac{5}{18}$ | 9. $\frac{5}{14}+(-\frac{5}{14})=$0 |
| 5. $2\frac{1}{3}+4\frac{2}{3}-1\frac{1}{2}=$$5\frac{1}{2}$ | 10. $\frac{5}{7}+3\frac{1}{2}+\frac{1}{4}=$$4\frac{13}{28}$ |

Multiplying and Dividing Fractions

Fill in the Flowchart:



Evaluate the expressions (SHOW ALL WORK):

|  |  |
| --- | --- |
| 11.. $\frac{7}{10}x\frac{2}{21}=$$\frac{1}{15}$ | 16.. $(-\frac{1}{3})×3\frac{1}{8}=$$7\frac{1}{24}$ |
| 12.. $\frac{5}{9}x\frac{7}{8}=$$\frac{35}{72}$ | 17. $20÷\frac{8}{15}=$$37\frac{1}{2}$ |
| 13. $(4\frac{1}{2})(4\frac{1}{2})=$$20\frac{1}{4}$ | 18.. $-7×(\frac{2}{9}+\frac{1}{9})=$$-2\frac{1}{3}$ |
| 14. $6\frac{1}{5}÷(-\frac{2}{3})=$$-9\frac{3}{10}$ | 19. $17\frac{2}{3}÷(-\frac{2}{3})=$$-26\frac{1}{2}$ |
| 15. $12÷\frac{3}{5}=$$20$ | 20. $\frac{4}{5}∙\frac{15}{16}=$$\frac{3}{4}$ |

WORD PROBLEMS

Use the keywords to fill in either multiplications, division, addition or subtraction for each column. Then add one more key word to each column.

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_Multiplications\_\_ | \_Division\_\_ | \_\_\_\_Addistion\_\_\_\_ | \_\_\_Subtraction\_\_\_\_\_ |
| Product, times, twice as many, total, triple\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Quotient, per, for each, average, split equally\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Sum, total, more than, Greater than, increased \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Difference, less than, how much more than, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Use IPS to solve the word problems:

|  |  |
| --- | --- |
| 21. Deborah needs to make 16 costumes for the school play. Each costume requires $2\frac{1}{4}$ yards of material. How many yards of material will she need?36 | 24. Belinda baked 9 pies that weigh 20$\frac{1}{4}$ pounds total. How much does each pie weigh? $2\frac{1}{4}$ |
|  22. A runner jogs $5\frac{1}{4}$miles east,$4\frac{1}{5}$ miles south, and $3\frac{2}{8}$miles west. How far has she jogged? $12\frac{7}{10}$ | 25. If 2$\frac{1}{3}$ ounce of cough syrup is used from a 4$\frac{1}{9}$ounce bottle, how much is left?$2\frac{2}{9}$ |
| 23. The Coffee Pub has cans of coffee that weigh $3\frac{1}{2}$ pounds each. The Pub has 8½ cans of coffee left. What is the total weight of 8½ cans? $29\frac{3}{4}$ | 26. A baker used $\frac{3}{4}$cup of flour to make $\frac{1}{4}$of a recipe. How much flour would the baker use to make the whole recipe?3 |