Name _____ Date of Test _____ Parent Signature_____

Fractions II Study Guide

Please show all your work when applicable. Don't just write answers.

Remember to reduce all fractions to their lowest form.

I. Mixed Fractions and Improper Fractions

1.) Write a mixed number for the following improper fractions.

a. $\frac{22}{4}$ $5\,{}^{2}/_{4} \rightarrow 5\,{}^{1}/_{2}$ b. $\frac{56}{5}$ $11\,{}^{1}/_{5}$

2.) Write an improper fraction for the following mixed fractions.

a. $4\frac{3}{5}$ ${}^{23}/_{5}$ b. $5\frac{3}{7}$ ${}^{38}/_{7}$

II. Writing a fraction as a sum of fractions.

3.) Write $\frac{23}{17}$ as a sum of 4 fractions. answers will vary two possible answers: ${}^{20}/_{17} + {}^{1}/_{17} + {}^{1}/_{17} + {}^{1}/_{17}$ or ${}^{15}/_{17} + {}^{3}/_{17} + {}^{4}/_{17} + {}^{1}/_{17}$

4.) Find another way to answer number 3?

(answers will vary)... ${}^{5}/_{17} + {}^{6}/_{17} + {}^{8}/_{17} + {}^{2}/_{17}$ or ${}^{3}/_{17} + {}^{3}/_{17} + {}^{9}/_{17} + {}^{14}/_{17}$

all the equations sum up to ${}^{23}/_{17}$

III. Operations with Fractions.

5.) Alicia, Mindy, and Ryan B. ate chocolate cake for dessert. Alicia ate $\frac{1}{2}$ of the cake, Mindy ate $\frac{3}{16}$ of the cake, and Ryan ate $\frac{2}{8}$ of the cake. How much of the cake is left over, assuming it was originally sliced into 16 pieces? There is _____ of the cake left over.

Find 16 as a common denominator for your fractions.

8/16 + 3/16 + 4/16 = 15/16

Use the model below to show how much of the cake was eaten.

A	A	M	M
A	A	M	
A	A	R	R
A	A	R	R

${}^{1}/_{16}$ of the cake or 1 piece is left over

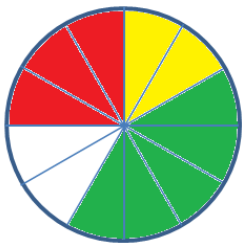
6.) Corey bought 4 ½ gallons of milk for a party at school. Ryan T. purchased 2 ½ gallons of milk for that week's breakfast. . How much milk did the two boys purchase all together?_____

$4\,{}^{1}/_{2} + 2\,{}^{1}/_{2} = 6\,{}^{2}/_{2} \rightarrow 7$ gallons

7.) A recipe calls for $5\frac{3}{4}$ cups of sugar while a second recipe calls for $3\frac{1}{4}$ cups of sugar. How many less cups of sugar are required in the second recipe compared to the first recipe?

$5\ ^{3}/_{4} - 3\ ^{1}/_{4} = 2\ ^{2}/_{4} \rightarrow 2\ ^{1}/_{2}$ cups

8.) Audrey, Davis, and Tanner ate a pizza for dinner. Audrey ate ¼ of the pizza, Davis ate $^{1}/_{6}$ of the pizza, and Tanner ate $^{5}/_{12}$ of the pizza. Draw a model to represent how much of the pizza was eaten.



9.) How much of the pizza did they eat in all? Write an equation to show this.

$^{1}/_{4} \rightarrow {}^{3}/_{12}$, $^{1}/_{6} \rightarrow {}^{2}/_{12}$, $^{5}/_{12} \rightarrow {}^{5}/_{12}$ $\quad {}^{3}/_{12} + {}^{2}/_{12} + {}^{5}/_{12} = {}^{10}/_{12} \rightarrow {}^{5}/_{6}$

10.) Max has $5\frac{4}{5}$ pints of ice cream. He and his friends bought an additional $3\frac{2}{5}$ pints of ice cream. How much ice cream do they have altogether?

$5\ ^{4}/_{5} + 3\ ^{2}/_{5} = 8\ ^{6}/_{5} \rightarrow 9\ ^{1}/_{5}$ pints

11.) $\frac{3}{5}+\frac{1}{5}=$ $^{4}/_{5}$

12.) $\frac{22}{25}-$ $^{9}/_{25}$ $=\frac{13}{25}$

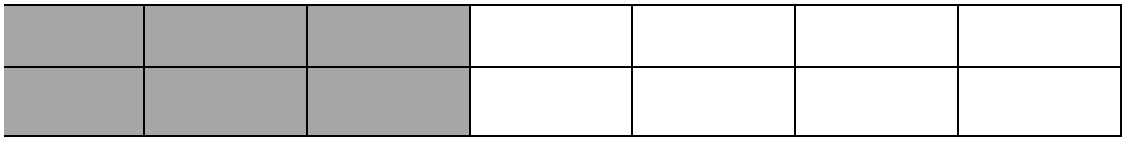
13.) $6\frac{7}{9}-2\frac{1}{9}=$ $4\ ^{6}/_{9} \rightarrow 4\ ^{2}/_{3}$ or $^{61}/_{9} - {}^{19}/_{9} = {}^{42}/_{9} = 4\ ^{6}/_{9} = 4\ ^{2}/_{3}$

14.) $\frac{4}{6}-\frac{1}{6}=$ $^{3}/_{6} \rightarrow {}^{1}/_{2}$

15.) $6\frac{3}{9}+1\frac{3}{9}=$ $7\ ^{6}/_{9} \rightarrow 7\ ^{2}/_{3}$ or $^{57}/_{9} + {}^{21}/_{9} = {}^{78}/_{9} = 8\ ^{6}/_{9} = 8\ ^{2}/_{3}$

16.) $\frac{3}{7}+$ $^{6}/_{7}$ $=1\frac{2}{7}$

17.) Use the diagram below to answer the following fractions.



a. Write a fraction that represents the shaded region above. $^{6}/_{14} \rightarrow {}^{3}/_{7}$

b. Write a fraction that represents the un-shaded region. $^{8}/_{14} \rightarrow {}^{4}/_{7}$

c. Write an equation that represents how many more un-shaded regions there are than shaded regions.

$^{8}/_{14} - {}^{6}/_{14} = {}^{2}/_{14} \rightarrow {}^{1}/_{7}$ $\quad$ or $\quad {}^{4}/_{7} - {}^{3}/_{7} = {}^{1}/_{7}$

IV. Modeling Multiplication with Fractions

18.) Write an equation for the model below.

 2/3

$^2/_3 \times 2 = {}^4/_3 \rightarrow 1\,{}^1/_3$

19.) Solve:

a. $10 \times {}^3/_5 =$ _____

$10 \rightarrow {}^{10}/_1 \quad {}^{10}/_1 \times {}^3/_5 = {}^{30}/_5 \rightarrow 6$

b. $7 \times \frac{4}{6} =$ _____

$7 \rightarrow {}^7/_1 \quad {}^7/_1 \times {}^4/_6 = {}^{28}/_6 \rightarrow 4\ 4/6 = 4\ 2/3$

20.) Each member of a relay team runs ½ of the track. If there are 6 members in the relay, how many laps do they run altogether?

$6 \rightarrow {}^6/_1 \qquad {}^1/_2 \times {}^6/_1 = {}^6/_2 \rightarrow$ 3 laps altogether

21.) At the first basketball game, the band sold 30 pizzas. At the second game, they sold $^5/_6$ more pizza than that they sold at the first game. How much more pizza did they sell at the second game?

$30 \rightarrow {}^{30}/_1 \qquad {}^{30}/_1 \times {}^5/_6 = {}^{150}/_6 \rightarrow$ 25 more pizzas are sold the 2nd game; 55 total pizzas were sold during the 2nd game

22.) Julie lost $^9/_{16}$ of a pound the first week of her diet. After a month she lost altogether 12 times as many pounds that she lost the first week. How many pounds has she lost?

$12 \rightarrow {}^{12}/_1 \qquad {}^{12}/_1 \times {}^9/_{16} = {}^{108}/_{16} \rightarrow 6\,{}^{12}/_{16} \rightarrow 6\,{}^3/_4$ pounds

23.) Omari had 44 baseball cards. He gave away $^1/_4$ of them. How many cards did he have left?

$44 \rightarrow {}^{44}/_1 \qquad {}^{44}/_1 \times {}^1/_4 = {}^{44}/_4 \rightarrow$ 11 cards given away

44 original cards – 11 given away = 33 cards left

24.) Oscar saved $360 mowing lawns one summer. He spent a third of that money on an ipod. He then earned an additional $50 babysitting. How much money does he have now?

$360 → $ $^{360}/_1$, a third → $^1/_3$ $ $^{360}/_1 \times {}^1/_3 = {}^{360}/_3 \rightarrow$ $120 spent on ipod

($360 - $120) + $ 50 = $ 290

25.)Solve:

a. $3\frac{2}{7} - 2\frac{4}{7} =$

$\frac{23}{7} - \frac{18}{7} = \frac{5}{7}$

b. $4\frac{5}{6} + \beta = 6\frac{1}{6} \qquad \beta =$ _____

$\frac{29}{6} + \frac{8}{6} = \frac{37}{6}$

$\beta = \frac{8}{6} \rightarrow 1\ 2/6$

c. Write 2 equivalent fractions for $\frac{3}{7}$. (answers will vary)

V. Spiral Review…be sure you can

identify place value, determine the value of digit in a given number, estimate, perform multi-digit multiplication, and long division, etc……

Show your work. You can also do Mega-Math, LearnZillion, or other math programs.