KU	APP	TIPS

Name _____

Fractions Test

Knowledge and Understanding:

K/U:	/ 20

1. Solve the following questions. **Show all your work.**

a) $\frac{3}{7} \times \frac{1}{3}$ 2

$= \frac{3}{21} \div 3$

$= \frac{1}{7}$

b) $\frac{8}{10 \times 3} - \frac{1}{3 \times 10}$ 2

$= \frac{24}{30} - \frac{10}{30}$

$= \frac{14}{30} \div 2$

$= \frac{7}{15}$

c) $2\frac{1}{4} + 3\frac{2}{5}$ 2

$= \frac{9}{4 \times 5} + \frac{17}{5 \times 4}$

$= \frac{45}{20} + \frac{68}{20}$

$= \frac{113}{20}$

d) $10 - \frac{1}{2} \div (\frac{1}{6} \times 3)$ 3

$= 10 - \frac{1}{2} \div \frac{3}{6}$

$= 10 - \frac{1}{2} \times \frac{2}{1}$

$= 10 - \frac{2}{2}$

$= 9$

e) $\frac{7}{8} \div \frac{4}{6}$ 2

$= \frac{7}{8} \times \frac{6}{4}$

$= \frac{42}{32} \div 2$

$= \frac{21}{16}$

f) $\frac{2}{3}$ of $(35 - 26)^2$ 2

$= \frac{2}{3} \times (9)^2$

$= \frac{2}{3} \times 81$

$= \frac{162}{3}$

$= 54$

g) $\frac{2}{5} + \left(\frac{2}{3}\right)^2 \times \frac{3}{4}$ 3

$= \frac{2}{5} + \frac{2}{3} \times \frac{2}{3} \times \frac{3}{4 \times 2}$

$= \frac{2}{5 \times 3} + \frac{1}{3 \times 5}$

$= \frac{6}{15} + \frac{5}{15}$

$= \frac{11}{15}$

Name _____

2. Express in lowest terms: [KU]

a) $\frac{24}{84}$ ÷ 6

$= \frac{4}{14}$ ÷ 2

$= \boxed{\frac{2}{7}}$

b) $\frac{72}{6}$

$= 12$

c) $\frac{35}{14}$ ÷ 7

$= \frac{5}{2}$

Application:

Use words to explain what you are calculating to help identify that you understand the question.

8:07 - 8:11
8:17 - 8:24
27

4/4/3

3. Over the holiday weekend it rained for $2\frac{1}{4}$ hours on Saturday and for $4\frac{2}{5}$ hours on Monday. How much longer did it rain on Monday compared to Saturday?

Monday − Saturday tells me how much longer it rained

$4\frac{2\times4}{5\times4} - 2\frac{1\times5}{4\times5}$

$= 2\frac{8}{20} - \frac{5}{20}$

$= 2\frac{3}{20}$

$4\frac{2}{5} - 2\frac{1}{4}$

$= \frac{22}{5\times4} - \frac{9\times}{4\times5}$

$= \frac{88}{20} - \frac{45}{20}$

$= \frac{43}{20}$

Brooklyn

∴ It rained _____
[2h 9min more!]
more on Monday

4. Suzie bought $1\frac{1}{4}$ kg of lettuce and $1\frac{2}{3}$ kg of spinach. Then, she bought a bunch of bananas that was $\frac{2}{3}$kg heavier than the total weight of the vegetables that she bought. What was the total weight of the bananas in kg?

*many did

$\frac{7}{5}$

Know: bought lettuce + spinach + Bananas
$1\frac{1}{4}$ + $1\frac{2}{3}$ (lettuce + spinach) + $\frac{2}{3}$

Veggies weight

$\frac{5}{4\times3} + \frac{5}{3\times4}$

$= \frac{15}{12} + \frac{20}{12}$

$= \frac{35}{12}$

Bananas = Veggies + $\frac{2}{3}$

$= \frac{35}{12} + \frac{2\times4}{3\times4}$

$= \frac{35}{12} + \frac{8}{12}$

$= \frac{43}{12}$ (3.6 kg)

Total weight is

$\boxed{3\frac{7}{12}}$ or $\boxed{\frac{43}{12}\text{ kg}}$

Lydnsay great clarity

Name _____

3. Emily was having friends over for dinner and baked a batch of cookies for desert. The batch made 21 cookies in total.
If Emily ate 1/7 of the cookies, Grace ate 3/14 and Jarrett ate 2/7.

a) What fraction of the cookies did the three girls eat in total?

$\frac{1}{7}_{\times 2} + \frac{3}{14} + \frac{2}{7}_{\times 2}$

$= \frac{2}{14} + \frac{3}{14} + \frac{4}{7}$

$= \frac{9}{14}$

∴ They ate $\frac{9}{14}$ of the cookies

b) How many cookies did Jarrett eat?

Jarrett ate $\frac{2}{7}$ of 21 cookies

$= \frac{2}{7} \times 21$

$= \frac{42}{7}$

$= 6$

∴ He ate 6 cookies

Keara
Noah - used equivalent fractions $\frac{1}{7} \times 3 = \frac{6}{21}$
Dustin
CARTER
Spencer

5. A 2L bottle of pop is 7/8 full. Sandra splits the pop between 5 people. How many mL did each friend get? Note 1L = 1000 mL

Know $\frac{7}{8}$ full ÷ 5 friends, the $\frac{7}{8}$ of 2000mL

want mL each gets

$\frac{7}{8} \div \frac{5}{1}$

$= \frac{7}{8} \times \frac{1}{5}$

$= \frac{7}{40}$ of $\frac{2000\ mL}{1}$

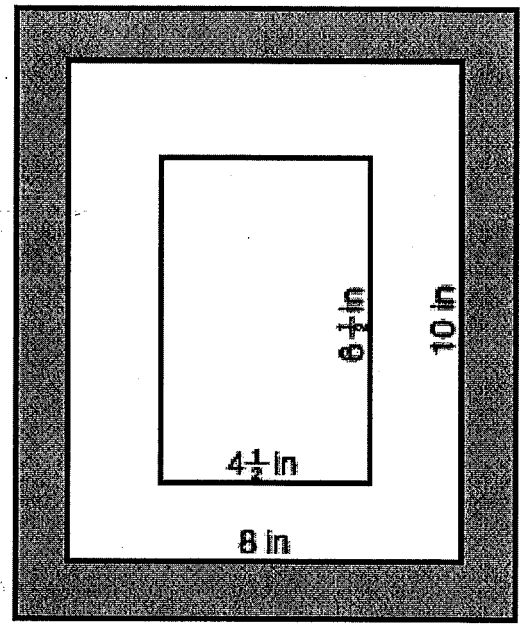
$= \frac{14000}{40}$

$= 350\ mL$

App:

Name _____

6. Robert brings a painting to the framing store to be framed. He chooses a frame with an 8 in by 10 in opening. The painting is 4 ½ in by 6 ½ in. A mat will be placed around the painting to fill the 8 in by 10 in opening. What is the area of the mat surrounding the painting?



A whole Frame: $8\text{in} \times 10\text{in}$
$= 80\text{in}^2$

Area painting $= 4\frac{1}{2} \times 6\frac{1}{2}$
$= \frac{9}{2} \times \frac{13}{2}$
$= \frac{117}{4}$
$= 58\frac{1}{2}\text{ in}^2$
$29\frac{1}{4}$

∴ Area mat is $A_{frame} - A_{painting}$
$= 80\text{in} - 58\frac{1}{2}$
$= 58\frac{1}{2}\text{ in}^2$

Thinking Inquiry

Sadie H

Bonus:
Prove to me that this equation is missing bracket(s) to make this equation true and then place the bracket(s) in the right spots.

$\frac{3}{4} \div \left(\frac{5}{6} - \frac{3}{4}\right) \times \frac{2}{3} = 6$