REVIEW
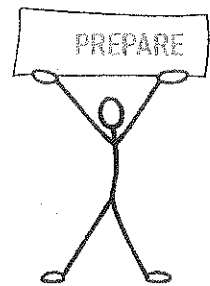
Name *Stew Dent*

Unit 3 Assessment
Dividing Fractions
Models, Word Problems
& the standard algorithm

Math 6
Period ___A___

PREPARE

Test Date: Thursday, December 11, 2019
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You are responsible for the information taught in class and on homework. Remember that mathematics is a subject that spirals (it builds upon itself), sp keeping up with concepts as we go is very important. Good Luck!

1. Solve fractional division problems using the standard algorithm.

a. $\frac{7}{8} \div \frac{2}{3}$

$= \frac{7}{8} \cdot \frac{3}{2} = \boxed{\frac{21}{16}} = \boxed{1\frac{5}{16}}$

b. $\frac{5}{9} \div \frac{9}{10}$

$\frac{5}{9} \cdot \frac{10}{9} = \boxed{\frac{50}{81}}$

c. $\frac{18}{25} \div \frac{3}{5}$

$\frac{\overset{6}{\cancel{18}}}{\underset{5}{\cancel{25}}} \cdot \frac{\overset{1}{\cancel{5}}}{\underset{1}{\cancel{3}}} = \boxed{\frac{6}{5}} = \boxed{1\frac{1}{5}}$

d. $\frac{24}{90} \div \frac{14}{15}$

$\frac{\overset{12}{\cancel{24}}}{\underset{6}{\cancel{90}}} \cdot \frac{\overset{1}{\cancel{15}}}{\underset{7}{\cancel{14}}} = \frac{12 \div 2}{42 \div 2} = \frac{6 \div 3}{21 \div 3} = \boxed{\frac{2}{7}}$

2. Solve division problems with mixed numbers by converting and using the standard algorithm.

d. $2\frac{1}{3} \div 3\frac{5}{6}$

$\frac{7}{3} \div \frac{23}{6} = \frac{7}{\cancel{3}} \cdot \frac{\cancel{6}^{2}}{23} = \boxed{\frac{14}{23}}$

e. $10\frac{4}{5} \div 1\frac{3}{15}$

$\frac{54}{10} \div \frac{18}{15} = \frac{\overset{3}{\cancel{54}}}{\underset{2}{\cancel{10}}} \cdot \frac{\overset{3}{\cancel{15}}}{\underset{1}{\cancel{18}}} = \boxed{\frac{9}{2}} = \boxed{4\frac{1}{2}}$

f. $4\frac{1}{8} \div 12\frac{5}{6}$

$\frac{33}{8} \div \frac{77}{6} = \frac{\overset{3}{\cancel{33}}}{8} \cdot \frac{\overset{3}{\cancel{6}}}{\underset{7}{\cancel{77}}} = \boxed{\frac{9}{28}}$

g. $6\frac{1}{2} \div 5\frac{4}{7}$

$\frac{13}{2} \div \frac{39}{7} = \frac{\overset{1}{\cancel{13}}}{2} \cdot \frac{7}{\underset{3}{\cancel{39}}} = \boxed{\frac{7}{6}} = \boxed{1\frac{1}{6}}$

3. Solve division problems using models when quotients are >1

h. $\frac{3}{5} \div \frac{1}{2} =$

Complete the model:
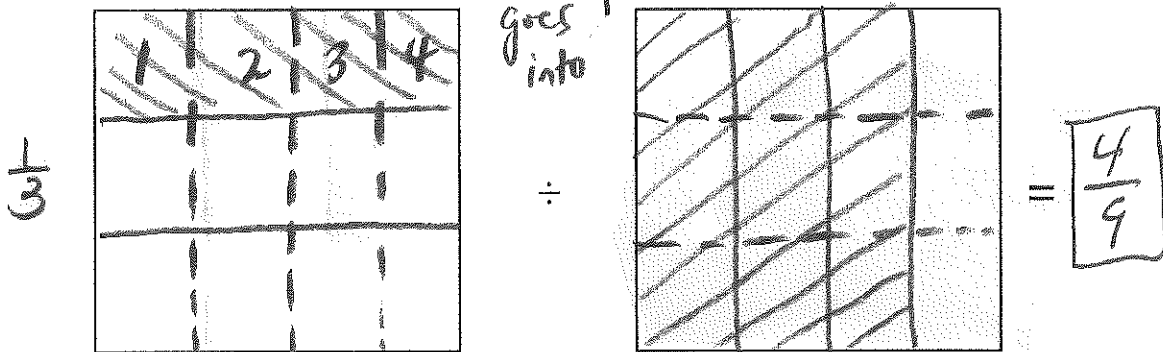
5 goes into

$\frac{1}{2}$

$\frac{3}{5}$

1

R1

$\div$

$= 1\frac{1}{5}$

i. $\frac{2}{3} \div \frac{1}{5} =$

Complete the model:

3 goes into

$\frac{1}{5}$

$\frac{2}{3}$

R1

3 2 1

$\div$

$= 3\frac{1}{3}$
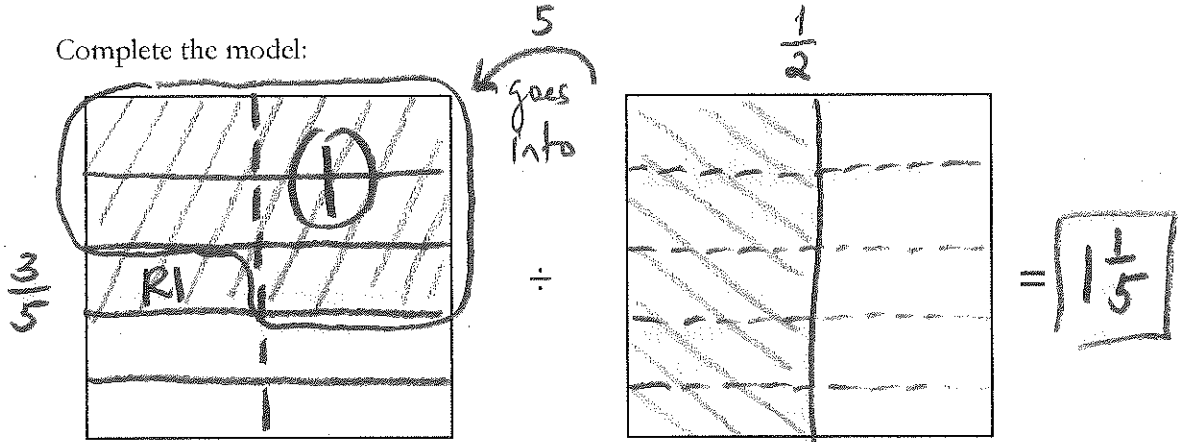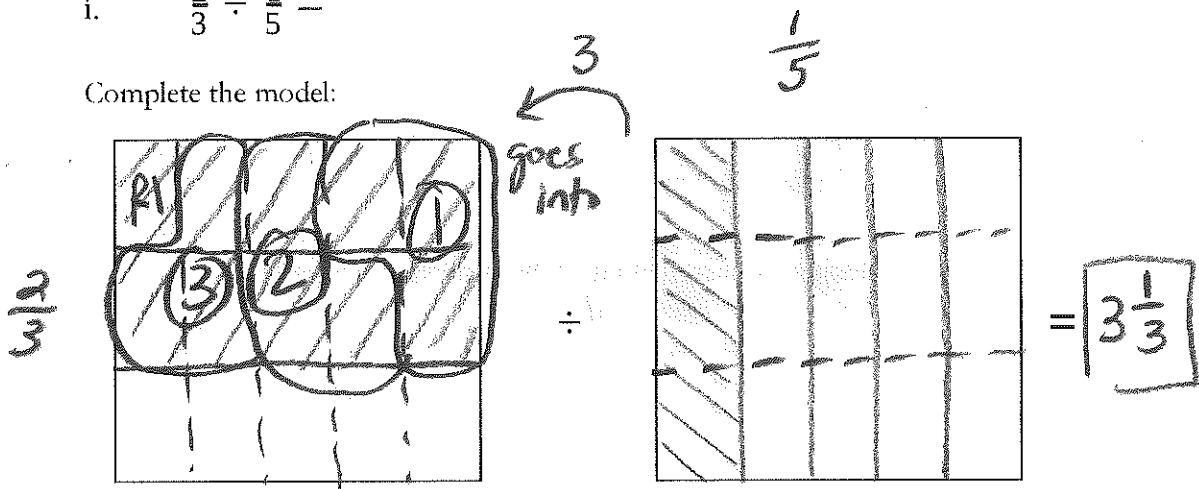
4. Solve division problems using models when quotients are <1
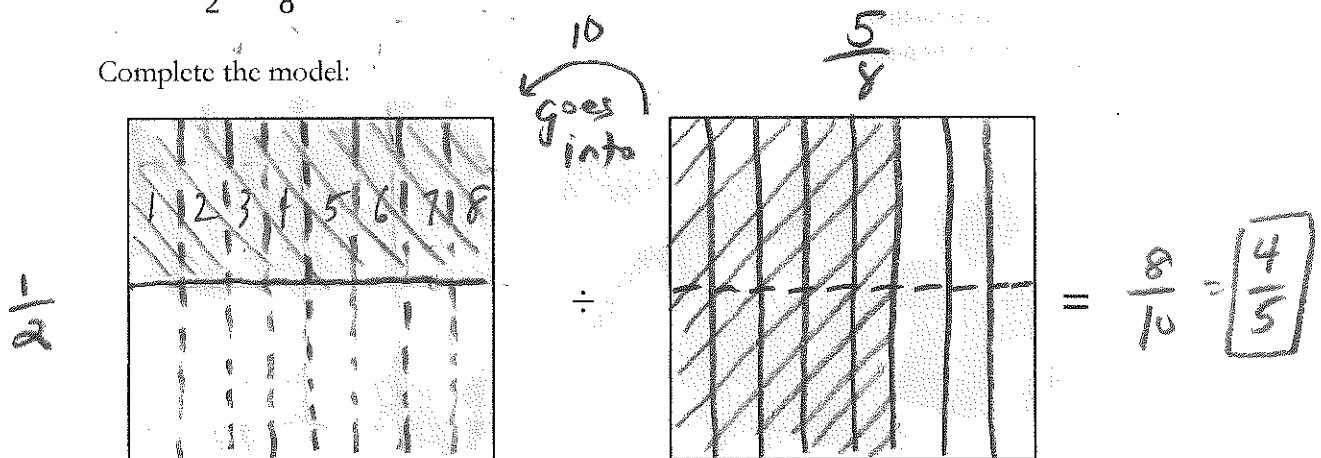
j.　　$\frac{1}{3} \div \frac{3}{4} =$

Complete the model:

$\frac{3}{4}$

9

$\overset{goes}{into}$

$\frac{1}{3}$

1　2　3　4

$\div$

$= \boxed{\frac{4}{9}}$

no groups　　4 out of the
　　　　　　　9 went in.

k　　$\frac{1}{2} \div \frac{5}{8} =$

Complete the model:

10

$\overset{goes}{into}$

$\frac{5}{8}$

$\frac{1}{2}$

1　2　3　4　5　6　7　8

$\div$

$= \frac{8}{10} = \boxed{\frac{4}{5}}$

no groups　　8 out of the
　　　　　　　10 went in.

5. Solve fractional word problems with division.

l. Mr. Millard's advisory is sending a video to PBS to honor and commemorate Caroll Spinney, the actor, and puppeteer who played both Big Bird and Oscar the Grouch on Sesame Street. They can send a $4\frac{1}{2}$ gb file in the mail on their thumb drive. If each of Mr. Millard's 16 advisory students wants to make and send their own video, how many equally sized videos can each student send?

Please solve using fractional operations. Show all work.

$$4\frac{1}{2} \div 16$$

$$\frac{9}{2} \div \frac{16}{1} = \frac{9}{2} \cdot \frac{1}{16} = \boxed{\frac{9}{32} \, gb}$$

m. Buddy the Elf is cutting a ribbon to decorate Gimble's toy store. Budy has a ribbon that is $23\frac{3}{4}$ feet long. Exactly how many bows can Buddy make if each bow requires $2\frac{1}{2}$ feet of ribbon to make it?

Model the problem with a math sentence using fractions and mixed numbers. Then, use the math sentence to find the solution.
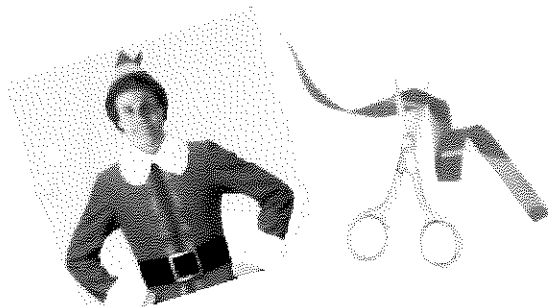
$$23\frac{3}{4} \div 2\frac{1}{2}$$

$$\frac{95}{4} \div \frac{5}{2} = \frac{95}{4} \cdot \frac{2}{5} = \frac{19}{2}$$

$$= \boxed{9\frac{1}{2} \, bows}$$

He can only make 9 complete bows.