

Division of fractions Homework

Name: _____ Hour: _____ Date: _____

Taken from CMP investigation 7.1 Bits and Pieces II.

Maddie's group in Home Arts class purchased ingredients in large quantities to make different sizes of muffins for a bake sale. Each bag of sugar contains approximately 20 cups. In problems 1-5, find how many muffins can be made from a bag of sugar if each of the different-sized muffins needs the amount of sugar given.

1. $\frac{1}{4}$ cup of sugar
2. $\frac{1}{8}$ cup of sugar
3. $\frac{1}{5}$ cup of sugar
4. $\frac{2}{5}$ cup of sugar
5. $\frac{4}{9}$ cup of sugar
6. Explain in words how the answers for $20 \div \frac{1}{5}$ and $20 \div \frac{2}{5}$ are related. Then, show why this makes sense.

7. When working with fractions, you sometimes need to find what to multiply a given number by to get a product of 1. For example, you multiply $\frac{1}{6}$ by 6 since $6 = \frac{6}{1}$,

We could write $\frac{1}{6} \times \frac{6}{1} = 1$

In a – i, write a factor that will make each number sentence true.

a) $2 \times \underline{\quad} = 1$ b) $\frac{1}{2} \times \underline{\quad} = 1$ c) $3 \times \underline{\quad} = 1$

d) $\frac{1}{3} \times \underline{\quad} = 1$ e) $\underline{\quad} \times \frac{2}{3} = 1$ f) $\frac{3}{4} \times \underline{\quad} = 1$

g) $\underline{\quad} \times \frac{5}{2} = 1$ h) $1\frac{1}{4} \times \underline{\quad} = 1$ i) $\frac{7}{12} \times \underline{\quad} = 1$

In each case, the factor by which you multiply a number so their product is 1 is called the **reciprocal** of the number.

Find each quotient using the reciprocal method:

8. $\frac{5}{16} \div \frac{1}{2}$

9. $\frac{2}{7} \div \frac{1}{9}$

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

11. $\frac{1}{8} \div \frac{3}{4}$