ANSWER KEY

GUIDED PRACTICE
Lesson 5 - Multiplying and Dividing Fractions

<u>Part 1 - Multiplying Whole Numbers by Fractions</u>
For the following problems, draw a model to show how to solve.

$5 \times 3/5$

5 groups of 3/5 is 3 wholes

$18 \times 1/3$

1/3 18 times is 6 wholes

½ of the patients in ICU are male. If there are 12 patients, what number of them are male?

½ 12 times is 6

In the ER, a patient came in claiming to have cut off 1/4 of her finger. If her finger was 3 inches long to begin with, how many inches of her finger did she cut off?
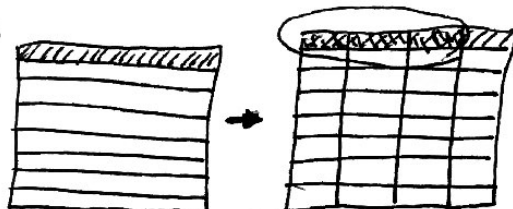

<u>Part 2 – Multiplying Fractions by Fractions</u>
For the following problems, draw a model to show how to solve.

$2/3 \times 3/5$
Shade in 3/5 then shade in 2/3 of that
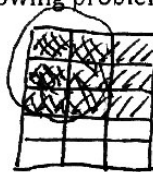
$\frac{6}{15}$ or $\frac{2}{5}$

$\frac{3}{4} \times 1/8$

On Barbie's visits with her home health patients today, 2/3 of the patients needed an injection. 3/8 of those patients needed a steroid injection. What fraction of the home health patients needed steroid injections?
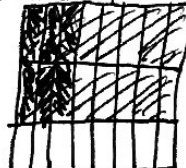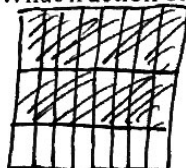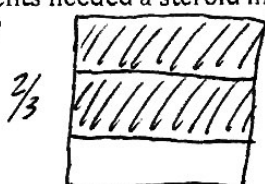
$\frac{6}{24}$ or $\frac{1}{4}$

2/3 of the staff at the hospital are nurses. 1/8 of those nurses only work on the weekends. What fraction of the total staff are nurses and work only on weekends?
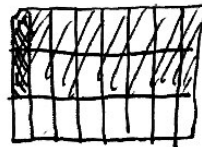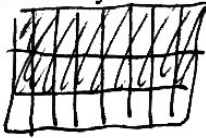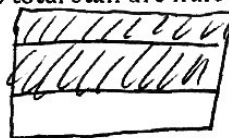
$\frac{2}{24}$ or $\frac{1}{12}$

<u>Part 3 – Using the Algorithm</u>

$8/9 \times 1/10$

$$\frac{8}{9} \times \frac{1}{10} = \frac{8}{90} = \frac{4}{45}$$

$\frac{3}{4} \times 7/9$

$$\frac{3}{4} \times \frac{7}{9} = \frac{21}{36} = \frac{7}{12}$$

$7/8 \times 16$

$$\frac{7}{8} \times \frac{16}{1} = \frac{112}{8} = 14$$

$96 \times 1/6$

$$\frac{96}{1} \times \frac{1}{6} = \frac{96}{6} = 16$$

$1\,1/3 \times 6\,1/8$

$$1\frac{1}{3} \times 6\frac{1}{8} = \frac{4}{3} \times \frac{49}{8} = \frac{196}{24} = 8\frac{1}{6}$$
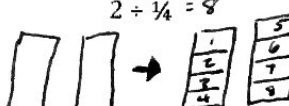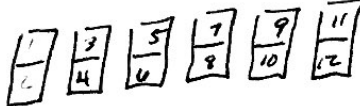
$2\frac{3}{4} \times 9$

$$2\frac{3}{4} \times 9 =$$
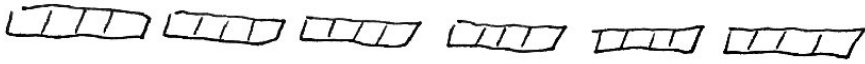$$\frac{11}{4} \times \frac{9}{1} = \frac{99}{4} = 24\frac{3}{4}$$

Part 4 – Whole numbers divided by fractions

For the following problems, draw a model to show how to solve.

$2 \div \frac{1}{4} = 8$

$\boxed{8}$

"How many $\frac{1}{4}$s are in 2?"

$6 \div \frac{1}{2} = 12$

"How many $\frac{1}{2}$s are in 6?"

A gauze roll is 6 feet long, and must be cut up into strips of ¼ foot. How many strips can be made out of one gauze roll?

24

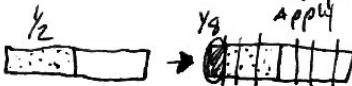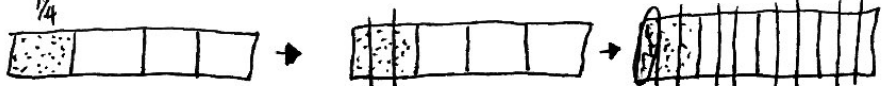## Part 5 – Fractions divided by whole numbers

For the following problems, draw a model to show how to solve.

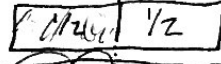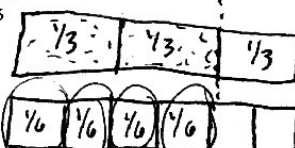"What size are the resulting pieces after dividing?"

start with ½
$\frac{1}{2} \div 4 = \frac{1}{8}$ Divide the half into 4 pieces
$\frac{1}{8}$ apply to the whole

$\frac{1}{4} \div 3 = \frac{1}{12}$

$\frac{1}{12}$

Betty works in the hospital cafeteria. She has ½ pound of chicken salad, and wants to make 8 croissants. How fraction of the chicken salad would go on each croissant?

1/16
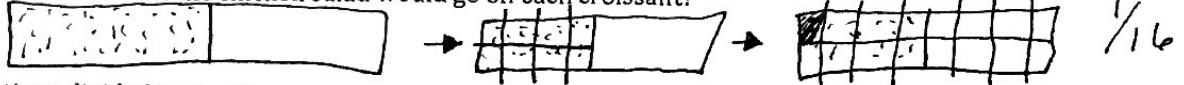
Part 6 – Fractions divided by fractions

For the following problems, draw a model to show how to solve.

$\frac{1}{2} \div \frac{1}{3} = 1\frac{1}{2}$

"How many thirds are in ½?"

1½ thirds fit in ½

$\frac{2}{3} \div \frac{1}{6} = 4$

4 sixths fit into 2/3

How many ⅛ teaspoon doses of cough medicine could you get out of the ¾ teaspoons left in the bottle?

3/4

⑥ 6 eighths in 3/4

Part 7 – Using the algorithm

$\frac{4}{5} \div \frac{1}{4}$

$\frac{4}{5} \div \frac{1}{4}$

$\frac{4}{5} \times \frac{4}{1} = \frac{16}{5} = 3\frac{1}{5}$

$4\frac{2}{3} \div 2\frac{1}{4}$

$\frac{14}{3} \div \frac{9}{4}$

$\frac{14}{3} \times \frac{4}{9} = \frac{56}{27} = 2\frac{2}{27}$

$1\frac{1}{2} \div \frac{3}{5}$

$\frac{3}{2} \div \frac{3}{5}$

$\frac{3}{2} \times \frac{5}{3} = \frac{15}{6} = 2\frac{1}{2}$

$6 \div \frac{1}{2}$

$\frac{6}{1} \div \frac{1}{2}$

$\frac{6}{1} \times \frac{2}{1} = 12$

$\frac{7}{8} \div \frac{1}{4}$

$\frac{7}{8} \times \frac{4}{1} = \frac{28}{8} = 3\frac{1}{2}$

$\frac{1}{4} \div 12$

$\frac{1}{4} \div \frac{12}{1}$

$\frac{1}{4} \times \frac{1}{12} = \frac{1}{48}$