

Key

NAME

DATE

PERIOD

19

Unit 4, Lesson 11: Using an Algorithm to Divide Fractions

1. Select **all** statements that show correct reasoning for finding $\frac{14}{15} \div \frac{7}{5}$.

$$\frac{14}{15} \times \frac{5}{7}$$

A. Multiplying $\frac{14}{15}$ by 5 and then by $\frac{1}{7}$.

4

B. Dividing $\frac{14}{15}$ by 5, and then multiplying by $\frac{1}{7}$.

C. Multiplying $\frac{14}{15}$ by 7, and then multiplying by $\frac{1}{5}$.

D. Multiplying $\frac{14}{15}$ by 5 and then dividing by 7.

2. Clare said that $\frac{4}{3} \div \frac{5}{2}$ is $\frac{10}{3}$. She reasoned: $\frac{4}{3} \cdot 5 = \frac{20}{3}$ and $\frac{20}{3} \div 2 = \frac{10}{3}$.

Explain why Clare's answer and reasoning are incorrect. Find the correct quotient.

She needs to multiply by 2 and divide by 5

$$\frac{4}{3} \times \frac{2}{5} = \frac{8}{15}$$

1

3. Find the value of $\frac{15}{4} \div \frac{5}{8}$. Show your reasoning.

$$\frac{15}{4} \times \frac{8}{5} = \frac{120}{20} = 6$$

common denominator

$$\frac{30}{8} \div \frac{5}{8} = \frac{6}{1}$$

1

4. Kiran has $2\frac{3}{4}$ pounds of flour. When he divides the flour into equal-sized bags, he fills $4\frac{1}{8}$ bags. How many pounds fit in each bag?

$$2\frac{3}{4} \div 4\frac{1}{8} = ?$$

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

$$\frac{11}{4} \div \frac{33}{8}$$

3

Write a multiplication equation and a division equation to represent the question and then answer the question. Show your reasoning.

$$\frac{11}{4} \times \frac{8}{33} = \frac{2}{3}$$

5. Divide $4\frac{1}{2}$ by the following unit fractions. other side

or common denominator

$$\frac{22}{8} \div \frac{33}{8} = \frac{22}{33} = \frac{2}{3}$$

NAME 4 1/2 ÷ each of the following DATE _____

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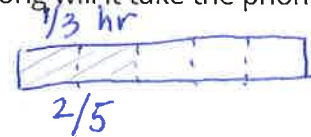
14 a. $\frac{1}{8}$ $\frac{9}{2} \div \frac{1}{8} = \frac{9 \cdot 8}{2 \cdot 1} = \frac{72}{2} = 36$ (from Unit 4, Lesson 10)

b. $\frac{1}{4}$ $\frac{9}{2} \div \frac{1}{4} = \frac{9 \cdot 4}{2 \cdot 1} = \frac{36}{2} = 18$ half as many 1/8s

c. $\frac{1}{6}$ $\frac{9}{2} \div \frac{1}{6} = \frac{9 \cdot 6}{2 \cdot 1} = \frac{54}{2} = 27$

6. After charging for $\frac{1}{3}$ of an hour, a phone is at $\frac{2}{5}$ of its full power. How long will it take the phone to charge completely?

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



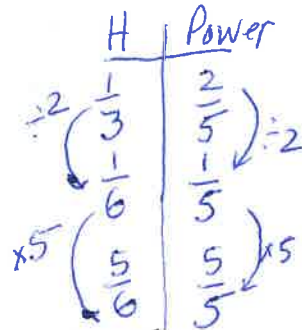
Decide whether each equation can represent the situation.

14 a. $\frac{1}{3} \cdot ? = \frac{2}{5}$ No

c. $\frac{2}{5} \div \frac{1}{3} = ?$ No

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

d. $\frac{2}{5} \cdot ? = \frac{1}{3}$ Yes



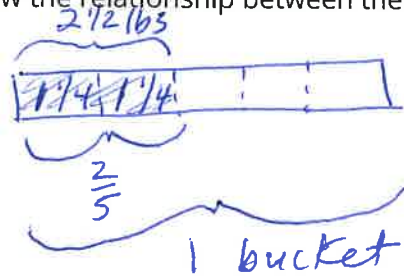
(from Unit 4, Lesson 9)

7. Elena and Noah are each filling a bucket with water. Noah's bucket is $\frac{2}{5}$ full and the water weighs $2\frac{1}{2}$ pounds. How much does Elena's bucket weigh if her bucket is full and her bucket is identical to Noah's?

$2\frac{1}{2} \div \frac{2}{5} = ?$

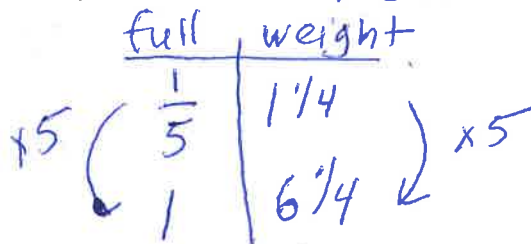
12 a. Write multiplication and division equations to represent the question. $\frac{2}{5} \times ? = 2\frac{1}{2}$

b. Draw a diagram to show the relationship between the quantities and to answer the question.



(from Unit 4, Lesson 8)

Another way



One way

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

$\frac{5}{2} \times \frac{5}{2} = \frac{25}{4} = 6\frac{1}{4}$ pounds

A third way

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

$\frac{25}{10} \div \frac{4}{10} = \frac{25}{4} = 6\frac{1}{4}$