Unit 4, Lesson 16
Practice Problems

(handwritten: 15)

1. An orange has about $\frac{1}{4}$ cup of juice. How many oranges are needed to make $2\frac{1}{2}$ cups of juice? Select **all** equations that represent this question.
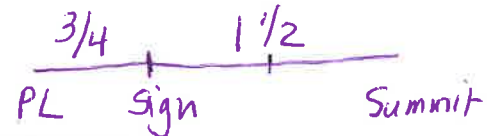
   (A.) $? \cdot \frac{1}{4} = 2\frac{1}{2}$

   B. $\frac{1}{4} \div 2\frac{1}{2} = ?$

   C. $? \cdot 2\frac{1}{2} = \frac{1}{4}$

   (D.) $2\frac{1}{2} \div \frac{1}{4} = ?$

   (handwritten:)
   $$\frac{1}{4} \cdot ? = 2\frac{1}{2}$$
   $$2\frac{1}{2} \div \frac{1}{4} = ?$$
   $$2\frac{1}{2} \div ? = \frac{1}{4}$$

   (handwritten: /4)

2. Mai, Clare, and Tyler are hiking from a parking lot to the summit of a mountain. They pass a sign that gives distances.

   - Parking lot: $\frac{3}{4}$ mile
   - Summit: $1\frac{1}{2}$ miles

   (handwritten: number line: 3/4, 1 1/2; PL, Sign, Summit; Total = 2 1/4 miles)

   Mai says: "We are one third of the way there." Clare says: "We have to go twice as far as we have already gone." Tyler says: "The total hike is three times as long as what we have already gone."

   Can they all be correct? Explain how you know.

   (handwritten: /1)

   (handwritten:) $\frac{3}{4}$ is $\frac{1}{3}$ of $2\frac{1}{4}$ Mai

   $1\frac{1}{2}$ is $2 \times \frac{3}{4}$ Claire

   $3 \times \frac{3}{4} = 2\frac{1}{4}$ Tyler

3. Priya's cat weighs $5\frac{1}{2}$ pounds and her dog weighs $8\frac{1}{4}$ pounds. Estimate the missing number in each statement before calculating the answer. Then, compare your answer to the estimate and explain any discrepancy.

   a. The cat is __$5/8$__ as heavy as the dog.

   b. Their combined weight is __$13\frac{3}{4}$__ pounds. *Added*

   c. The dog is __3__ pounds heavier than the cat. *Subtract*

   (handwritten work:) $\dfrac{5\frac{1}{2}}{8\frac{1}{4}}$ $\dfrac{\frac{11}{2}}{\frac{33}{4}}$ $\dfrac{11}{2} \cdot \dfrac{4}{33} = \dfrac{2}{3}$

   $\begin{array}{r} 8\frac{1}{4} \\ -\ 5\frac{1}{2} \end{array}$ $\begin{array}{r} 8\frac{1}{4}\ ^{+4\ \to\ \frac{5}{4}} \\ -\ 5\frac{2}{4} \\ \hline 2\frac{3}{4}\ lbs \end{array}$

   (handwritten: /3)

4. Before refrigerators existed, some people had blocks of ice delivered to their homes. A delivery wagon had a storage box in the shape of a rectangular prism that was $7\frac{1}{2}$ feet

NAME   DATE   PERIOD

7½ by 6 feet by 6 feet. The cubic ice blocks stored in the box had side lengths $1\frac{1}{2}$ feet. How many ice blocks fit in the storage box?

A. 270

B. $3\frac{3}{8}$

C. 80 *(circled)*

D. 180

(handwritten) 1

(handwritten)
$4 \cdot 4 \cdot 5$
$16 \cdot 5 = 80$

(handwritten, right side)
6 feet ⇒ 4 blocks
7½ feet = 5 blocks
$\frac{15}{2} \div \frac{3}{2}$
$5\frac{15}{2} \times \frac{2}{3}$

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5. Fill in the blanks with 0.001, 0.1, 10, or 1000 so that the value of each quotient is in the correct column. *Challenge*

close to $\frac{1}{100}$

• $\underline{.1} \div 9$
• $12 \div \underline{1000}$

close to 1

• $\underline{.1} \div 0.12$
• $\frac{1}{8} \div \underline{.1}$

greater than 100

• $\underline{1000} \div \frac{1}{3}$
• $700.7 \div \underline{.001}$ or $.1$

(handwritten) +3

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6. A school club sold 300 shirts. 31% were sold to fifth graders, 52% were sold to sixth graders, and the rest were sold to teachers. How many shirts were sold to each group—fifth graders, sixth graders, and teachers? Explain or show your reasoning.

(handwritten, right) or 10% = 30
1% = 3

(handwritten) /3

(handwritten work)
5ᵗʰ 300 × .31 93
    300
    900

6ᵗʰ 300 × .52 156
    6 0 0
   150 0

Teachers 300 × .17 51
    2100
    30 0
    51.00

7. Jada has some pennies and dimes. The ratio of Jada's pennies to dimes is 2 to 3.

a. From the information given above, can you determine how many coins Jada has?

(handwritten) No need to know how many of 1 or the other or total

b. If Jada has 55 coins, how many of each kind of coin does she have? *(handwritten)* 22 pennies, 33 dimes

c. How much are her coins worth?

(handwritten table)

P	D	Total
2	3	5 ×11
22	33	55

(handwritten)
22 pennies = 22 cents
33 dimes = 3.30
so $3.52

(handwritten) /3