

Lesson 28 (5.2) Solve division word problems involving multi-digit division with group size unknown and the number of groups unknown. Fluency Practice (3 min.) Unit Conversions (3 min.)

$$0.37 \times 1000$$

$$1 \text{ m} = \underline{100} \text{ cm}$$

$$0.37 \text{ L} = \underline{370} \text{ mL}$$

$$1 \text{ L} = \underline{1000} \text{ mL}$$

$$0.152 \text{ kg} = \underline{152} \text{ g}$$

$\times 1000 \text{ or } 10^3$

$$1 \text{ ft} = \underline{12} \text{ in}$$

$$0.08 \text{ m} = \underline{8} \text{ cm}$$

→

$$\begin{aligned} 1 \text{ m} &= 100 \text{ cm} \\ 1 \text{ m} &= 1000 \text{ mm} \\ 1 \text{ km} &= 1000 \text{ m} \end{aligned}$$

$$\begin{aligned} 1 \text{ L} &= 1000 \text{ mL} \\ 1 \text{ kg} &= 1000 \text{ g} \end{aligned}$$

Concept Development (38 min.) Distribute Problem Set

1. Model the problem.
2. Calculate to solve, and write a statement.
3. Assess the solution for reasonability.

1. Ava is saving for a new computer that costs \$1,218. She has already saved half of the money. Ava earns \$14.00 per hour. How many hours must Ava work in order to save the rest of the money?

$$\begin{array}{r} 43 \overline{) 140} \\ \underline{140} \\ 0 \end{array}$$

$$\begin{array}{r} 14 \\ \times 3 \\ \hline 42 \end{array}$$

$$\begin{array}{r} 1218 \\ 2 \overline{) 1218} \\ \underline{2} \\ 10 \\ \underline{10} \\ 18 \\ \underline{18} \\ 0 \end{array}$$

$$\begin{array}{r} 43.5 \\ 14 \overline{) 609.0} \\ \underline{56} \\ 49 \\ \underline{42} \\ 70 \end{array}$$

$$\begin{array}{r} 609 \\ 2 \overline{) 1218} \\ \underline{12} \\ 01 \\ \underline{00} \\ 18 \end{array}$$

= Ava must work 43.5 hrs to save the rest of the money

2. Michael has a collection of 1,404 sports cards. He hopes to sell the collection in packs of 36 cards and make \$633.75 when all the packs are sold. If each pack is priced the same, how much should Michael charge per pack?

\$633.75																																				
1	2	...																																		39

39 packs

$$\begin{array}{r}
 36 \overline{) 1,404} \\
 \underline{108} \\
 324 \\
 \underline{324} \\
 0
 \end{array}$$

$$\begin{array}{r}
 36 36 \\
 \times 3 \times 9 \\
 \hline
 108 324
 \end{array}$$

$$\begin{array}{r}
 5 \\
 39 \\
 \times 6 \\
 \hline
 234
 \end{array}
 \quad
 \begin{array}{r}
 1 \\
 39 \\
 \times 2 \\
 \hline
 78
 \end{array}$$

$$\begin{array}{r}
 \$16.25 \\
 39 \overline{) 633.75} \\
 \underline{39} \\
 243 \\
 \underline{234} \\
 97 \\
 \underline{78} \\
 19
 \end{array}$$

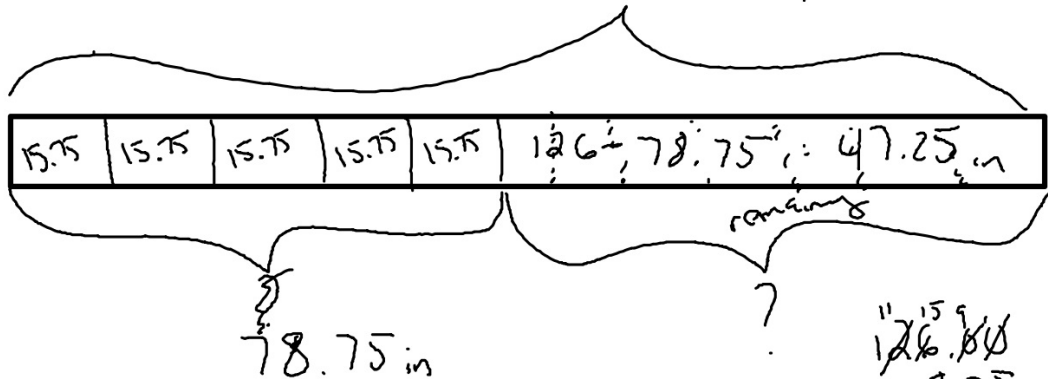
$$\begin{array}{r}
 39 \\
 \times 5 \\
 \hline
 195
 \end{array}$$

He should charge \$16.25 per pack

3. Jim Nasium is building a tree house for his two daughters. He cuts 12 pieces of wood from a board that is 128 inches long. He cuts 5 pieces that measure 15.75 inches each and 7 pieces evenly cut from what is left. Jim calculates that, due to the width of his cutting blade, he will lose a total of 2 inches of wood after making all of the cuts. What is the length of each of the seven pieces?

$$\begin{array}{r} 15.75 \\ \times 5 \\ \hline 78.75 \end{array}$$

$$128 - 2 = 126$$



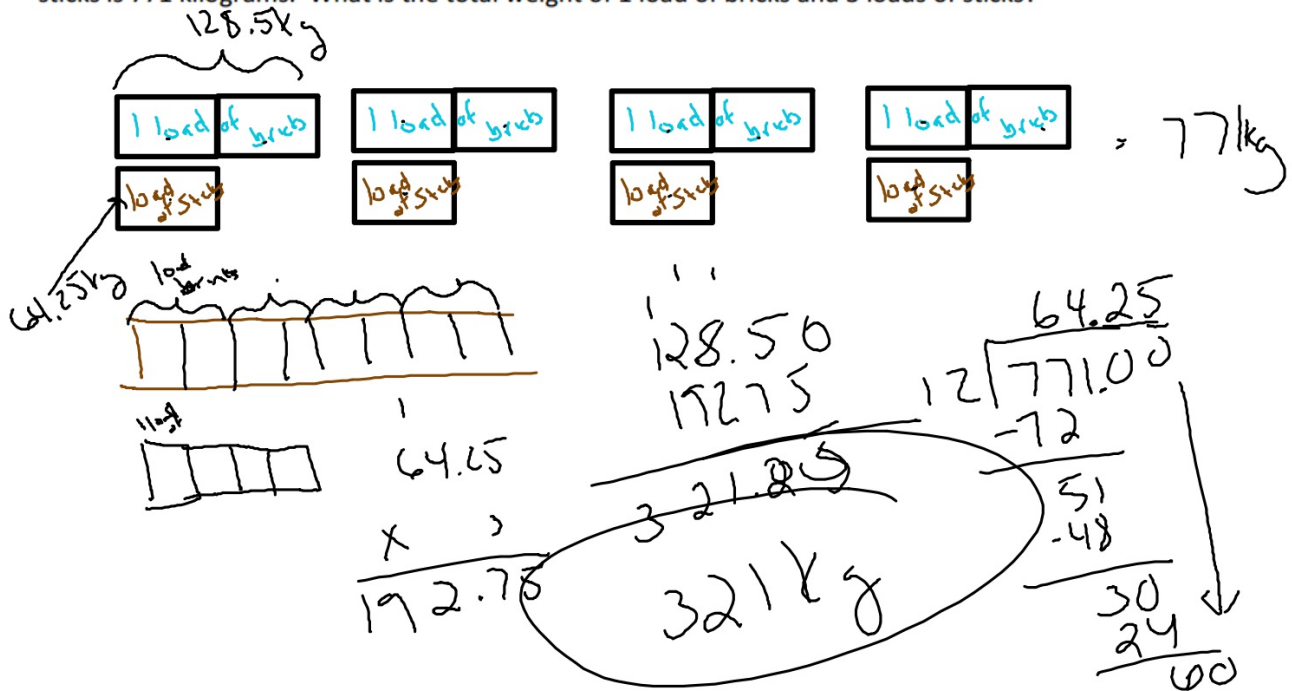
$$78.75 \text{ in}$$

$$\begin{array}{r} 6.75 \\ 7 \overline{) 47.25} \\ \underline{- 42} \\ 52 \\ \underline{- 49} \\ 35 \\ \underline{35} \\ 0 \end{array}$$

$$\begin{array}{r} 126.00 \\ - 78.75 \\ \hline 47.25 \end{array}$$

Each of the 7 pieces is 6.75 in long

4. A load of bricks is twice as heavy as a load of sticks. The total weight of 4 loads of bricks and 4 loads of sticks is 771 kilograms. What is the total weight of 1 load of bricks and 3 loads of sticks?



Student Debrief (10 min.) Solve division word problems involving multi-digit division with group size unknown and the number of groups unknown.

- How are the problems alike? How are they different?

