

OBJECTIVE: Solve division word problems involving multi-digit division with group size unknown and the number of groups unknown.

## MODULE 2 – LESSON 28

# Sprint – Divide Decimals by Multiples

$○ 4 \div 10 = .4$

$4 \div 20 = .5$

$○ 4 \div 40 = .1$

$8 \div 10 = .8$

$○ 8 \div 20 = .4$

$8 \div 40 = .02$

$○ 6 \div 2 = 3$

$6 \div 20 = .03$

$○ 15 \div 20 = .75$

$15 \div 50 = .9$

$○ 27 \div 30 = .9$

$72 \div 80 = .03$

$○ 0.54 \div 90 = .006$

$.35 \div 70 = .005$

$○ 3.5 \div 70 = .05$

$4.8 \div 80 = .06$

# Fluency Practice – Unit Conversion

- Ⓐ 36 in = 2 ft
- Ⓑ 3000 g = 3 kg
- Ⓒ 16 fl oz = 2 cups
- Ⓓ 4500 lbs = 2 tons 500 lbs
- Ⓔ 10,560 ft = 2 miles
- Ⓕ 72 ft = 24 yd
- Ⓖ 340 cm = 3 m 40 cm
- Ⓗ 160 ml = .16 l

# Concept Development – Problem 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?

$$1218 \div 2 = \text{saved}$$

$$\text{Saved} \div 14$$

Saved

How many  
14s?

$$1,218 \div 2 = 609$$

$$609 \div 14 = 43.5$$

$$\begin{array}{r} 43.5 \\ 14 \overline{)6090} \\ -56 \\ \hline 49 \\ -42 \\ \hline 70 \\ -70 \\ \hline 0 \end{array}$$

Ava will need to work 43.5 more hours to save the other half of the money.

# Concept Development – Problem 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?

16.25

39 | 633.75

-39 ↓

243  
- 234 ↓

97

-78 ↓

195

-195 ↓

0

How many packs of 36 do we have?

$$\begin{array}{r} 39 \\ 36 \longdiv{1404} \\ \underline{-108} \downarrow \\ 324 \\ - 324 \\ \hline 0 \end{array}$$

$$1,404 \div 36 = 39$$

$$\$633.75 \div 39 = \$16.25$$

Michael will need to charge \$16.25 per pack to make a total of \$633.75 on all sports cards.

# Concept Development – Problem 3

- Jim Nasiem 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 the cuts. What is the length of each of the seven pieces?



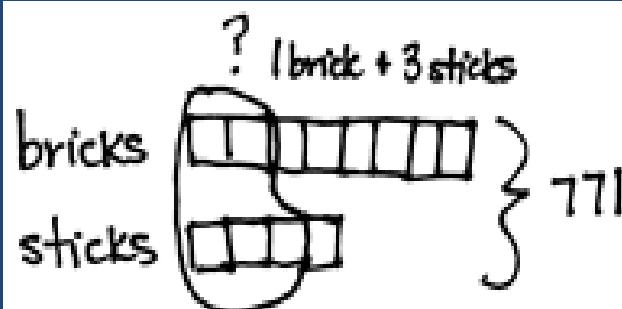
# Concept Development - Problem 4

- 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?

4 loads of sticks = 4 units

$4 \times 2$  loads of bricks = 8 units

Total = 12 units



$$12 \text{ units} = 771 \text{ kilograms}$$

$$1 \text{ unit} = 64.25$$

$$5 \text{ units} = 321.25$$

$$\begin{array}{r} 64.25 \\ \times 5 \\ \hline 321.25 \end{array}$$

One load of bricks and 3 loads of sticks weighs 321.25 kg.

# End of Lesson Activities

- Debrief
- Problem Set
- Exit Ticket
- Homework

# Problem Set

- Problem Set is the Concept Development Problems.

# Problem Set

- Ⓐ Divide, then check your work with multiplication.
  - $36.14 \div 13$        $62.79 \div 23$        $12.21 \div 11$        $6.89 \div 13$
  - $249.6 \div 52$        $24.96 \div 52$        $300.9 \div 59$        $30.09 \div 59$
- Ⓑ The weight of 72 identical marbles is 183.6 grams. What is the weight of each marble? Explain how you know the decimal point of your quotient is placed reasonably.
- Ⓒ Cameron wants to measure the length of his classroom using his foot as a length unit. His teacher tells that it takes him 92 steps. How long is Cameron's foot in meters?
- Ⓓ A blue rope is three times as long as a red rope. A green rope is 5 times as long as the blue rope. If the total length of the three ropes is 508.25 meters, what is the length of the blue rope?

# Exit Ticket

- Kenny is ordering uniforms for both the girls' and boys' tennis clubs. He is ordering shirts for 43 players and two coaches at a total cost of \$658.35. In addition, he is ordering visors for each player at a total cost of \$368.51. How much will each player pay for the shirt and visor?

# Homework

- Mr. Rice needs to replace the 166.25 ft of edging on the flower beds in his backyard. The edging is sold in lengths of 19 ft each. How many lengths of edging will he need to purchase?
- Olivia is making granola bars and will use 17.9 oz of pistachios, 12.6 oz of almonds, 12.5 oz of sunflower seeds, and 12.5 oz of cashews. This amount makes 25 bars. What is the total amount of nuts in each bar?
- Adam has 16.45 kg of flour and he uses 6.4 kg to make hot cross buns. The remaining flour is exactly enough to make 15 batches of scones. How much flour will be in each batch?
- There are 90 fifth grade students going on a field trip. Each one pays the teacher \$9.25 to cover admission to the theater and lunch. Admission for the students will cost \$315 and each one gets an equal amount to spend on lunch. How much will each fifth grader be able to spend on lunch?