

# 8

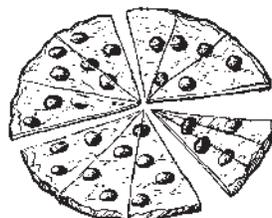


## Mastery Drill 8

### Story Problems With Remainders

What we do with the remainder after working a division story problem depends on the story.

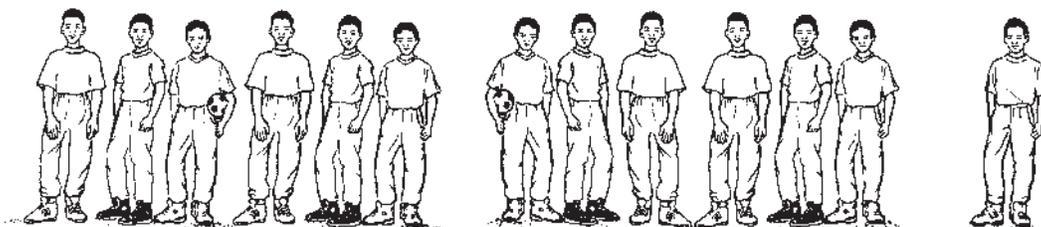
Three hungry boys divided ten pieces of pizza equally among themselves. How many pieces of pizza did each boy eat?



$$3 \overline{)10} \begin{array}{r} 3 \frac{1}{3} \\ \underline{9} \\ 1 \end{array} \quad \text{or} \quad 3 \overline{)10} \begin{array}{r} 3 \text{ R}1 \\ \underline{9} \\ 1 \end{array}$$

Should the answer be  $3\frac{1}{3}$  or 3R1?

If the boys eat all the pizza, there won't be a remainder, so this time we change the remainder into a fraction, since pizza can be cut into pieces. Each boy ate  $3\frac{1}{3}$  pieces of pizza.



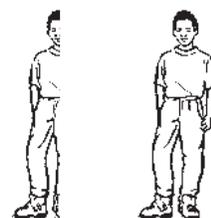
13 boys were divided into 2 groups for soccer.  
How many boys were in each group?

Should the answer be  $6\frac{1}{2}$  or 6R1?

$$2 \overline{)13} \begin{array}{r} 6 \frac{1}{2} \\ \underline{12} \\ 1 \end{array} \quad \text{or} \quad 2 \overline{)13} \begin{array}{r} 6 \text{ R}1 \\ \underline{12} \\ 1 \end{array}$$

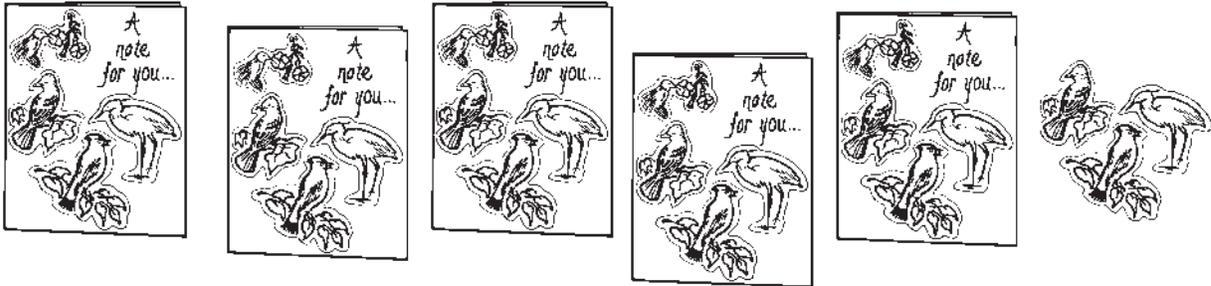
We can't divide any of the boys in half, so the fraction remainder doesn't make sense. We use 6R1. Each team has 6 boys and one boy waits as a substitute. Or we can say one team has 6 boys and the remainder is added to the second team, which now has 7 boys.

$\frac{1}{2}$  or R1



Anne is making pretty cards to send to her grandparents. She has 23 stickers to use on her cards. If she needs 4 bird stickers for each card, how many cards can Anne make?

$$\begin{array}{r} 5 \\ 4 \overline{)23} \\ \underline{20} \\ 3 \end{array}$$



The answer is 5. This time we just drop the remainder. It wouldn't make sense for Anne to make  $\frac{3}{4}$  of a card, nor would she have 3 cards left over. She has 3 stickers left over, but the problem did not ask about the stickers.

After you work a division problem, read the question again, and ask yourself, "Which answer makes the most sense?" Then write the best answer.

If the quotient can be divided into parts, write the remainder as a fraction.

If the quotient cannot be divided into parts, decide whether to list the remainder separately, drop the remainder, or add it to one of the other groups.

1. The river route to the Mayan ruins is 32 miles long. The Maus family took 3 days to canoe the length of it. If they traveled the same amount each day, how many miles did they travel each day?

Answer: \_\_\_\_\_

2. Juan separated his 11 pigs as evenly as possible into 2 pens. How many pigs were in each pen?

Answer: \_\_\_\_\_

3. A pig was butchered and cut into 3-lb chunks. If the pork weighed 97 lbs, how many 3-lb chunks were there?

Answer: \_\_\_\_\_

**Lesson 8**



4. There are 183 people and 7 churches. How many people would be in each church if they were divided as equally as possible?

Answer: \_\_\_\_\_



5. Florinda has 25 yards of fabric. She is making dresses that take 4 yards each. How many dresses can she make?

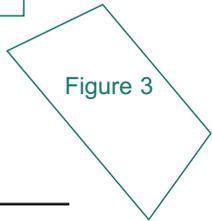
Answer: \_\_\_\_\_



***We Remember***

**Answer the questions.**

- 6. Are all these figures trapezoids? \_\_\_\_\_
- 7. Do all these figures have only one pair of parallel sides? \_\_\_\_\_
- 8. Which figures are trapezoids? \_\_\_\_\_
- 9. Which trapezoid has one side perpendicular to its parallel sides? \_\_\_\_\_



**Write each ratio in fraction form. Multiply by 3 to make larger equivalent ratios.**

- 10. a. 1 to 3 =  $\frac{\quad}{\quad}$  =  $\frac{\quad}{\quad}$       b. 30 to 10 =  $\frac{\quad}{\quad}$  =  $\frac{\quad}{\quad}$       c. 3:4 =  $\frac{\quad}{\quad}$  =  $\frac{\quad}{\quad}$

**Label each number *P* for *prime* or *C* for *composite*.**

- 11. a. 13 \_\_\_\_\_      b. 35 \_\_\_\_\_      c. 32 \_\_\_\_\_      d. 41 \_\_\_\_\_      e. 47 \_\_\_\_\_

***?... Mental Math***

- 12. a.  $\frac{5}{6}$  of 42 is \_\_\_\_\_.      b.  $\frac{4}{5}$  of 20 is \_\_\_\_\_.      c.  $\frac{7}{9}$  of 45 is \_\_\_\_\_.

+  $\times$  Skill Builders

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

13. a.  $39 \overline{)1,947}$

b.  $30 \overline{)4,719}$

c.  $\underline{\quad} - \frac{3}{10}$

Complete the metric prefix chart.

14.

_____	_____	_____	meter liter gram 1	_____	_____	_____
_____	_____	_____		_____	_____	_____

Place a check after each number that is divisible . . .

15. by 8.      a. 45 \_\_\_\_\_      b. 88 \_\_\_\_\_      c. 62 \_\_\_\_\_      d. 96 \_\_\_\_\_      e. 40 \_\_\_\_\_

16. by 7.      a. 77 \_\_\_\_\_      b. 68 \_\_\_\_\_      c. 91 \_\_\_\_\_      d. 35 \_\_\_\_\_      e. 70 \_\_\_\_\_

17. by 6.      a. 78 \_\_\_\_\_      b. 138 \_\_\_\_\_      c. 96 \_\_\_\_\_      d. 98 \_\_\_\_\_      e. 84 \_\_\_\_\_

Solve. Use short division.

18. a.  $6 \overline{)1,902}$

b.  $7 \overline{)2,420}$

c.  $2 \overline{)7,457}$

Order these decimal numbers from greatest to least.

19. 3.256    2.5    2.23    3.552    \_\_\_\_\_    \_\_\_\_\_    \_\_\_\_\_    \_\_\_\_\_

Copy and solve. Annex zeros as needed to complete the division.

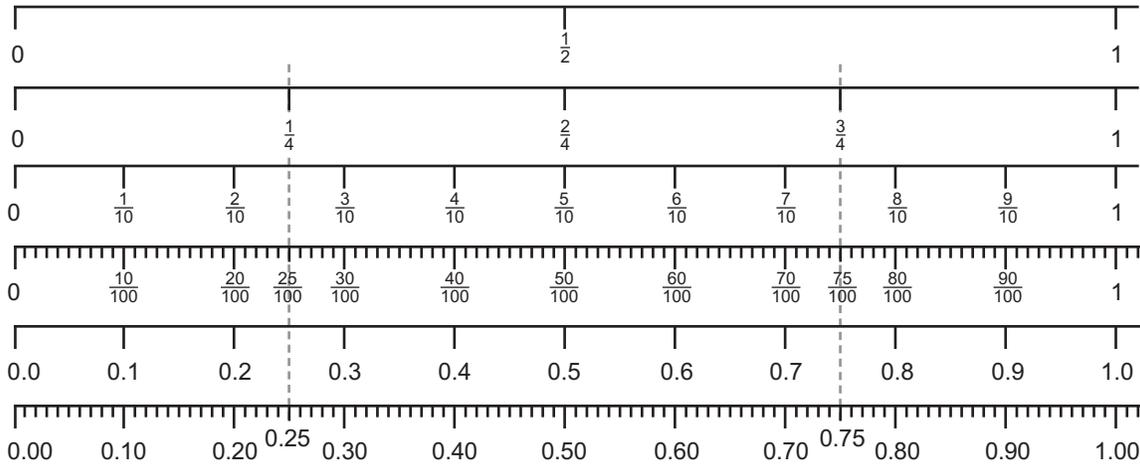
20.  $2.36 \div 5 =$  \_\_\_\_\_

When oranges reach the juicing plant, they are squeezed, and the juice is boiled down into a thick concentrate. The concentrate is then sold by the gallon or quart.



## Relating Common Fractions to Decimals on a Number Line

Study the number lines below. Notice how the same spot on the number line may have several different fraction and decimal names.



Use the number lines to find the answers.

- Give three other names for  $\frac{1}{10}$ . \_\_\_\_\_
- How many fourths is 0.75? \_\_\_\_\_
- List all the numbers from the number lines that are equal to  $\frac{50}{100}$ .  
\_\_\_\_\_
- Give a one-place decimal for  $\frac{6}{10}$ . \_\_\_\_\_
- Give a two-place decimal for  $\frac{3}{10}$ . \_\_\_\_\_
- a. Is there a one-place decimal for  $\frac{1}{4}$ ? \_\_\_\_\_      b. For  $\frac{3}{4}$ ? \_\_\_\_\_

Now, imagine that the number lines stretch to 8. Do these activities.

- Give a one-place decimal for  $\frac{5}{10}$ . \_\_\_\_\_
- Give a two-place decimal for  $3\frac{5}{10}$ . \_\_\_\_\_
- Eight and seventy-five hundredths equals eight and \_\_\_\_\_-fourths.
- Write a two-place decimal for  $4\frac{1}{4}$ . \_\_\_\_\_



*We Remember*

Solve.

11. a. 
$$\begin{array}{r} 8 \text{ hr } 44 \text{ min} \\ + 1 \text{ hr } 36 \text{ min} \\ \hline \end{array}$$

b. 
$$\begin{array}{r} 4 \text{ hr } 21 \text{ min} \\ - 2 \text{ hr } 40 \text{ min} \\ \hline \end{array}$$

c. 
$$\begin{array}{r} 12 \text{ hr } 13 \text{ min} \\ - 7 \text{ hr } 53 \text{ min} \\ \hline \end{array}$$

Complete the metric prefix chart.

12.

_____	_____	_____	meter liter gram 1	_____	_____	_____
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Set up a proportion to solve the problem.

13. The mission store stocks 8 Spanish Bible storybooks and 12 English Bible storybooks. How many Spanish Bible storybooks are there for every 3 English books?

\_\_\_\_\_

*?... Mental Math*

14. a.  $27 \times 5 = \underline{\hspace{2cm}}$

b.  $31 \times 9 = \underline{\hspace{2cm}}$

c.  $92 \times 2 = \underline{\hspace{2cm}}$

15. a.  $\frac{1}{3}$  of 12 is  $\underline{\hspace{2cm}}$ .

b.  $\frac{3}{7}$  of 21 is  $\underline{\hspace{2cm}}$ .

c.  $\frac{2}{5}$  of 50 is  $\underline{\hspace{2cm}}$ .

16. 
$$\frac{45}{9} \times 10 + 45 - 55 \times 100 \div 4 = \underline{\hspace{2cm}}$$

Lesson 9

—  $\div$   $\times$  Skill Builders —

17. a.  $16 \overline{)1.232}$       b.  $3\frac{7}{8} - 2\frac{1}{2}$       c.  $23 \overline{)9,349}$

Solve.

18. a.  $2\frac{1}{9} \div \frac{5}{18} = \underline{\hspace{2cm}}$       b.  $2\frac{5}{6} \div 1\frac{2}{3} = \underline{\hspace{2cm}}$

Use the chart to convert the metric units.

kilo	hecto	deca		deci	centi	milli
------	-------	------	--	------	-------	-------

19. a. 92 kg = \_\_\_\_\_ g      b. 16 m = \_\_\_\_\_ mm      c. 6 kL = \_\_\_\_\_ dL

Answer the questions.

20. Which quadrilateral is a trapezoid? \_\_\_\_\_

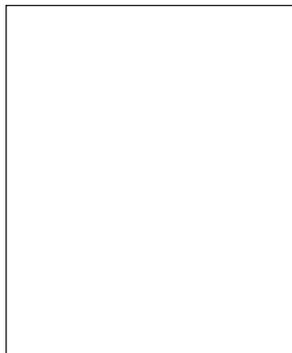


21. Does this trapezoid have any perpendicular lines? \_\_\_\_\_



Copy and solve. Annex zeros as needed to complete the division.

22.  $25 \div 4 = \underline{\hspace{2cm}}$



Decide on a sensible way to use the remainders.



23. It takes 9 lbs of ground corn to make a batch of tortillas big enough to feed a group of roof thatchers. How many batches of this size could be made out of 47 pounds of corn?

Answer: \_\_\_\_\_



24. There are 40 cups of caldo in which to dip the tortillas. How many cups will each of the 15 men have if the caldo is divided equally?

Answer: \_\_\_\_\_



25. Carmelita chopped 2 pounds of chicken to add to the caldo. If there were 16 people at the meal, how many ounces of chicken could each person have?

Answer: \_\_\_\_\_

Caldo, a soup of broth, spices, and a little chicken, is a common holiday meal. It is served with plenty of fresh corn tortillas, which are often used as spoons to dip up the soup. Each person can normally eat 8 to 10 tortillas with the caldo.

**Round to the nearest . . .**

- |                  |           |       |           |       |
|------------------|-----------|-------|-----------|-------|
| 26. tenth.       | a. 6.384  | _____ | b. 0.964  | _____ |
| 27. ten.         | a. 44.9   | _____ | b. 9.5    | _____ |
| 28. thousandths. | a. 1.3568 | _____ | b. 0.2469 | _____ |

**Write these fractions with denominators of 100. Then write them as percents.**

29. a.  $\frac{33}{50} = \frac{\quad}{100} = \quad\%$       b.  $\frac{1}{10} = \frac{\quad}{100} = \quad\%$       c.  $\frac{1}{4} = \frac{\quad}{100} = \quad\%$

**Match.**

- |                                     |  |
|-------------------------------------|--|
| 30. _____ area of a square          | a. $A = l \times w$                      |
| 31. _____ area of a triangle        | b. $C = \pi \times d$                    |
| 32. _____ circumference of a circle | c. $A = s^2$                             |
| 33. _____ area of a rectangle       | d. $A = \frac{1}{2} \times (b \times h)$ |