

## 6-2 Ratio Tables - Practice and Problem Solving

Use the ratio tables given to solve each problem.

5. **PIES** To make 5 apple pies, you need about 2 pounds of apples. How many pounds of apples do you need to make 20 apple pies?

<b>Number of Pies</b>	5		20
<b>Pounds of Apples</b>	2		■

	$\times 2$	$\times 2$	
Number of Pies	5	10	20
Pounds of Apples	2	4	8
	$\times 2$	$\times 2$	

You need 8 apples to make 20 apple pies.

7. **MONEY** Before leaving to visit Mexico, Levant traded 270 American dollars and received 3,000 Mexican pesos. When he returned from Mexico, he had 100 pesos left. How much will he receive when he exchanges these pesos for dollars?

<b>American Dollars</b>	270		■
<b>Mexican Pesos</b>	3,000		100

	$\div 10$	$\div 3$	
American Dollars	270	27	9
Mexican Pesos	3000	300	100
	$\div 10$	$\div 3$	

Levant will receive \$9 for the 100 pesos left.

9. **KNITTING** Four balls of wool will make 8 knitted caps. How many balls of wool will Malcolm need if he wants to make 6 caps?

<b>Balls of Wool</b>	4		■
<b>Number of Caps</b>	8		6

	$\div 4$	$\times 3$	
Balls of Wool	4	1	3
Number of Caps	8	2	6
	$\div 4$	$\times 3$	

Malcolm will need 3 balls of wool to make 6 caps.

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11. **BIKING** On a bike trip across the United States, Jason notes that he covers about 190 miles every 4 days. If he continues at this rate, use a ratio table to determine about how miles he could bike in 6 days.

	$\div 2$	$\times 3$	
	$\swarrow$	$\searrow$	
Days	4	2	6
Miles Covered	190	95	285
	$\swarrow$	$\searrow$	
	$\div 2$	$\times 3$	

Jason will cover 285 miles in 6 days.

13. **PETS** Before administering medicine, a veterinarian needs to know the animal's weight in kilograms. If 20 pounds is about 9 kilograms and a dog weighs 30 pounds, use a ratio table to find the dog's weight in kilograms. Explain your reasoning.

	$\times 3$	$\div 2$	
	$\swarrow$	$\searrow$	
Weight in pounds	20	60	30
Weight in kilograms	9	27	13.5
	$\swarrow$	$\searrow$	
	$\times 3$	$\div 2$	

The dog weighs about 13.5 kg. If 20 lbs  $\approx$  9 kg, then 60 lbs is about 27 kg. Since half of 60 is 30, a 30 lb dog weighs half of 27 kg or  $27 \div 2$ , which is 13.5 kg.

**RECIPES** Use the following information.

A punch recipe that serves 24 people calls for 4 liters of lemon-lime soda, 2 pints of sherbet, and 6 cups of ice.

15. Create a ratio table to represent this situation.

People Served	24			
Liters of Soda	4			
Pints of Sherbet	2			
Cups of Ice	6			

17. How much of each ingredient would you need to make an identical recipe that serves 18 people? Explain your reasoning.

	$\div 2$	$\times 3$	$\div 2$	
	$\swarrow$	$\swarrow$	$\swarrow$	
People Served	24	12	36	18
Liters of Soda	4	2	6	3
Pints of Sherbet	2	1	3	1.5
Cups of Ice	6	3	9	4.5

For serving 18 people, you will need 3 L soda, 1.5 pt sherbet, and 4.5 c ice.

Since 18 is half of 36, half the recipe that serves 36 people.  $6 \text{ L} \div 2 = 3 \text{ L}$ ,  $3 \text{ pt} \div 2 = 1.5 \text{ pt}$ , and  $9 \text{ c} \div 2 = 4.5 \text{ c}$ .

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19. **NUMBER SENSE** There are 10 girls and 8 boys in Mr. Augello's class. If 5 more girls and 5 more boys join the class, will the ratio of girls to boys remain the same? Justify your answer using a ratio table.

No; if 5 girls and 5 boys are added, there would be 15 girls and 13 boys in the class. Using the ratio table below, you can see that there should be 12 boys for 15 girls.

<b>Number of Girls</b>	10	15	20
<b>Number of Boys</b>	8	12	17

21. Paul buys 5 DVDs for \$60. At this rate, how much would he pay for 3 DVDs?
- A \$10  
B \$30  
C \$36  
D \$58

	5	1	3
Number of DVDs	5	1	3
Cost in Dollars	60	12	36

Paul will pay \$36 for 3 DVDs. The answer is C.

23. Jay Len is making biscuits using the recipe below.

Whole Wheat Biscuits	
2 c	Whole wheat flour
4 tsp	Baking powder
$\frac{1}{2}$ tsp	Salt
2 tbsp	Shortening
1 c	Milk
1	Small egg
Makes 20 biscuits	

How many cups of flour will he need to make 30 biscuits?

- F  $1\frac{1}{2}$  cups  
G 3 cups  
H 10 cups  
J 15 cups

	20	10	30
Number of Biscuits	20	10	30
Cups of flour	2	1	3

Jay Len will need 3 c flour to make 30 biscuits. The answer is G.

**Divide. Write in simplest form.**

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25.  $5\frac{3}{4} \div 3\frac{3}{4}$

$$\begin{aligned} 5\frac{3}{4} \div 3\frac{3}{4} &= \frac{23}{4} \div \frac{15}{4} \\ &= \frac{23}{4} \times \frac{4}{15} \\ &= \frac{23}{1} \times \frac{1}{15} \\ &= \frac{23}{15} = 1\frac{8}{15} \end{aligned}$$

27.  $2\frac{1}{2} \div 1\frac{4}{5}$

$$\begin{aligned} 2\frac{1}{2} \div 1\frac{4}{5} &= \frac{5}{2} \div \frac{9}{5} \\ &= \frac{5}{2} \times \frac{5}{9} \\ &= \frac{25}{18} \\ &= 1\frac{7}{18} \end{aligned}$$

**PREREQUISITE SKILL** Write each ratio as a unit rate.

29. \$24 for 3 hats

$$\begin{aligned} \frac{\$24}{3 \text{ hats}} &= \frac{(\$24) \div 3}{(3 \text{ hats}) \div 3} \\ &= \frac{\$8}{1 \text{ hat}} \end{aligned}$$

31. 145 students for 5 teachers

$$\begin{aligned} \frac{145 \text{ students}}{5 \text{ teachers}} &= \frac{(145 \text{ students}) \div 5}{(5 \text{ teachers}) \div 5} \\ &= \frac{29 \text{ students}}{1 \text{ teacher}} \end{aligned}$$