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Use Tables of Equivalent Ratios to Solve Ratio Problems, Practice Set A

Name:

Date:

1. Find the missing values in the ratio tables.

a.

4	8		16	
7	14	21		35

b.

	22	33		88
15	30		60	120

c.

10	20		40	45
	24	36	48	

d.

8	16	24	80	
	34	51		340

2. Explain how you found the values in 1.c.

3. The school library is ordering more books and would like to order the right balance of fiction to nonfiction titles. Past records show that in recent years the ratio of nonfiction to fiction titles that students check out has been 3:7.

How many of each type of book should the library order if it orders 100 total new titles? 200? 250? 300? 500? Make a ratio table to find your answers.

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Use Tables of Equivalent Ratios to Solve Ratio Problems, Practice Set A

1. Find the missing values in the ratio tables.

a.

4	8	12	16	20
7	14	21	28	35

b.

11	22	33	44	88
15	30	45	60	120

c.

10	20	30	40	45
12	24	36	48	54

d.

8	16	24	80	160
17	34	51	170	340

2. Explain how you found the values in 1.c. *Answers vary. Example:*

I can see that 10 doubles to 20, and 12 is half of 24, so the ratio before 20:24 must be 10:12. After 24 the values increase again by 12 to 36, then to 48, so I must also

increase the top row by 10 to 30, and then by 10 again for 40, for the ratios of 30:36 and 40:48. From 40 to 45 the increase is only 5, which is half of 10; so if I increase 48 by half of 12 I will get 54 (48+6=54), for the final ratio of 45:54.

(Students may choose instead to recreate the table and draw in the multiplicative relationships.)

3. The school library is ordering more books and would like to order the right balance of fiction to nonfiction titles. Past records show that in recent years the ratio of nonfiction to fiction titles that students check out has been 3:7.

How many of each type of book should the library order if it orders 100 total new titles? 200? 250? 300? 500? Make a ratio table to find your answers and explain your reasoning.

Tables will vary depending upon the students' reasoning strategies. Example:

Nonfiction	3	**30**	**60**	15	**75**	**90**	**150**
Fiction	7	**70**	**140**	35	**175**	**210**	**350**
Total books	10	100	200	50	250	300	500

100 books: 3 nonfiction plus 7 fiction books make a total group of 10 books. 10 groups of 10 (10x10) makes 100, so to find out how many of each type of book I would order if I order a total of 100 books I must multiply each quantity by 10.

200 books: To find out how many of each type to order if 200 books are ordered, I doubled the quantities that were ordered for 100 total books. I did this because 100*2=200.

250 books: To find out how many of each type to order if 250 books are ordered, I first found out how many of each book I would need if I ordered 50 books. I found this by dividing my answers for 100 total books by 2, because 50 is half of 100. I then added these quantities to the books I ordered for a total of 200 books to find my answers for 250 total books.

300 books: To find out how many of each type to order if 300 total books are ordered I triple the quantities in my answer for 100 total books because 100x3=300.

500 books: To find out how many of each type to order if 500 books are ordered I added the quantities from my answers for 300 total books and 200 total books, because 300+200=500.