

45 School days until...



Warm Up Grade 8



time is ticking

1) Write 3 equivalent ratios to 75:5

$$\begin{array}{l}
 75:5 \quad \div 5 \\
 15:1 \quad \div 2 \rightarrow \times 3 \\
 30:2 \\
 45:3
 \end{array}$$

2) Find the missing value

a)  $x:42 = 4:7$

$x=24$

b)  $28:48 = 7:12$

c)  $14:22 = 21:t$

Reduce  $\div 2$

$7:11 = 21:t$

$t=33$

3) A class has 28 kids. The ratio of girls to boys is 3 to 4. What is the number of girls in this group is?

$$\begin{array}{l}
 G : B \rightarrow \text{Total} \\
 3 : 4 \rightarrow 7 \\
 \times 4 \quad \times 4 \quad \rightarrow \quad \quad \quad \div 4 \\
 12 : 16 \quad \quad \quad 28
 \end{array}$$

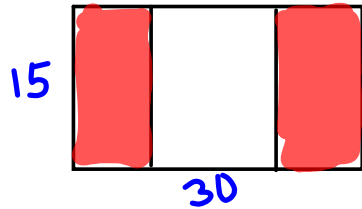
There are 12 girls.

12. non fiction : fiction  
3 : 1  
300 : 100  
1500 : 500

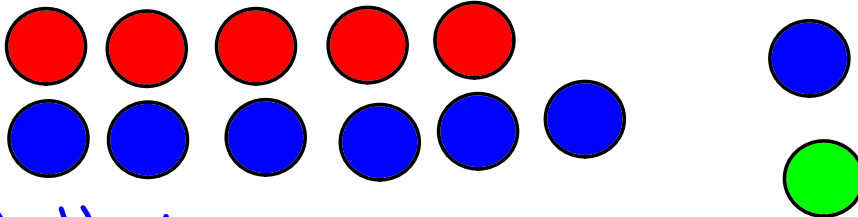
b) There are numerous answers,  
depending on the size of the library.

13. Length: width  
 $\frac{2}{20} : \frac{1}{10}$   
 $30 : 15$

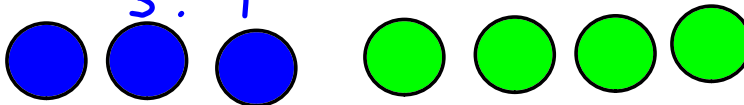
- largest from the sheet of paper



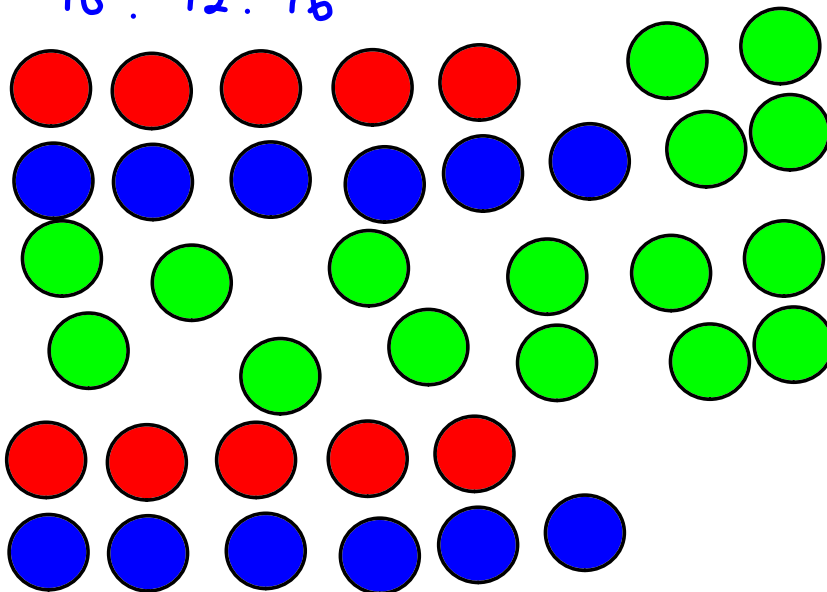
14. red : blue  
 $5 : 6$



b) blue : green  
 $3 : 4$



c) red : blue : green  
 $10 : 12 : 16$



(b)  $10^r : 12^b : 16^g$   
 satisfies all 3.

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To see if the ratios are equivalent, reduce or find equivalent ratios with the same terms.

$$15. a) 16:30 \quad \text{and} \quad 28:42$$

$$8:15 \quad 14:21$$

$$2:3$$

$$8:12$$

They are not equivalent

$$b) 27:63 \quad 49:21$$

Not equivalent, in first ratio the first term is smaller, but in the second ratio, the first term is larger

$$c) 56:104:88 \quad 42:78:66$$

$$28:52:44 \quad 7:13:11$$

$$14:26:22$$

$$7:13:11$$

They are equivalent

$$d) 20:70:50 \quad 30:105:75$$

$$2:7:5 \quad \begin{matrix} \cdot 15 \\ 2:7:5 \end{matrix}$$

They are equivalent.

16.	girls	:	boys	student	32
	5	:	3	8	students
	10	:	6	16	
	15	:	9	24	
	20	:	12	32	←

There are 12 boys and 20 girls in the class.

$$17. \quad a) \quad 10:35 = \underline{\quad}:42$$

$$2:7 = \underline{12}:42$$

$$b) \quad \begin{array}{c} 36:78 = \underline{\quad}:182 \\ \div 6 \quad \div 6 \end{array}$$

$$6:13 = \underline{84}:182 \\ \times 14$$

$$c) \quad \underline{\quad}:15 = 68:85$$

$$d) \quad 49:\underline{\quad}:63 = 84:36:108 \\ \div 12 \quad \div 12 \\ 49:\underline{21}:63 = 7:3:9$$

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1. No, because there are 365 days in a year and 400 students so there can not be 2 students with the same b-day every day

$$365 + 365 = 730$$

and there may be some days with more than 2 birthdays

2.

Eggs: sugar: milk: vanilla  
 6 : 1 : 750 : 5

$$2 : \frac{1}{3} : 250 : \frac{5}{3}$$

$$4 : \frac{2}{3} : 500 : \frac{10}{3}$$

3. \$3.99 for dozen or 35¢ each

35 for 1

70¢ for 2

420¢ for 12

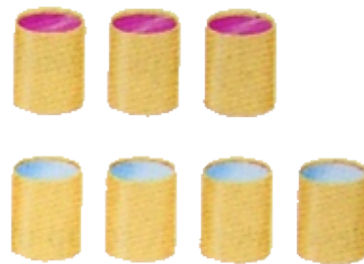
\$3.99 for a dozen is a better deal.

Comparing Rates

Recipe A for punch calls for 2 cans of concentrate and 3 cans of water.



Recipe B for punch calls for 3 cans of concentrate and 4 cans of water.



In which recipe is the punch stronger?  
Or, are the drinks the same strength?  
Explain how you know.



$$\begin{array}{l}
 \text{A} \\
 \text{J} : \text{W} \\
 2 : 3 \\
 \times 4 \quad \times 4 \\
 8 : 12
 \end{array}$$

$$\begin{array}{l}
 \text{B} \\
 \text{J} : \text{W} \\
 3 : 4 \\
 \times 3 \quad \times 3 \\
 9 : 12
 \end{array}$$

More Juice  
Stronger



You can **compare ratios** either by:

- getting equivalent ratios with one of the terms the same in both ratios
- changing each ratio so that the **second term is 1**



Erica makes her coffee with 2 scoops of coffee and 5 cups of water.

Jim makes his coffee with 3 scoops of coffee and 7 cups of water.

Whose coffee is stronger?



No coffee, No workee.



Erica

Coffee: Water

$$\begin{array}{l} 2 : 5 \\ \swarrow \searrow \\ 14 : 35 \end{array} \begin{array}{l} \times 7 \\ \times 7 \end{array}$$

Jim Coffee: Water

$$\begin{array}{l} 3 : 7 \\ \swarrow \searrow \\ 15 : 35 \end{array} \begin{array}{l} \times 5 \\ \times 5 \end{array}$$

More coffee  
Stronger

Or



You can compare ratios either by:

- getting equivalent ratios with one of the terms the same in both ratios
- changing each ratio so that the second term is 1

## Class/Homework

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# 4(a,d,f),

#5(a,d,f),

#6,

#7,

#8,

#9

Lincoln  
15 50  
Cool  
and  
X

first term 1

÷5

↓

6)

W: B  
3: 4  $\xrightarrow{\times 7}$   
21: 28  
More white  
Lighter



W: B  
5: 7  $\xrightarrow{\times 4}$   
20: 28  
less white  
Darker