

48 School days until...



Warm Up Grade 8



time is ticking

1) Write 3 equivalent ratios to

$75:5$

$15:1$
 $30:2$
 $45:3$

2) Find the missing value

a) $x:42 = 4:7$

(Handwritten: x is boxed, arrows show x multiplied by 6 to get 42, and 4 multiplied by 6 to get 24)

$x=24$

b) $28:48 = 7:12$

(Handwritten: 28 divided by 4 is 7, 48 divided by 4 is 12)

c) $14:22 = 21:t$

(Handwritten: Simplify 14:22 to 7:11, then 7 multiplied by 3 is 21, so 11 multiplied by 3 is 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?

G : B
3 : 4 \Rightarrow

(Handwritten: 3 multiplied by 4 is 12, 4 multiplied by 4 is 16)

12 : 16

Total
7
28

(Handwritten: 7 multiplied by 4 is 28)

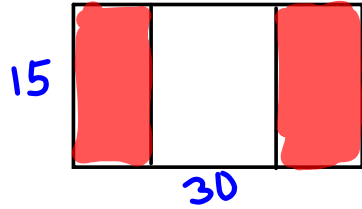
There are 12 girls.

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

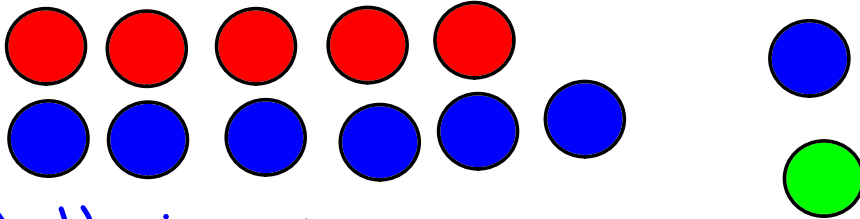
b) There are numerous answers,
depending on the size of the library.

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

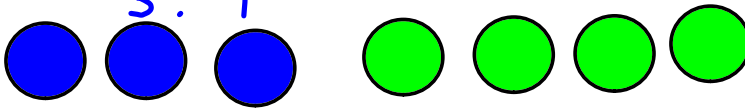
- largest from the sheet of paper



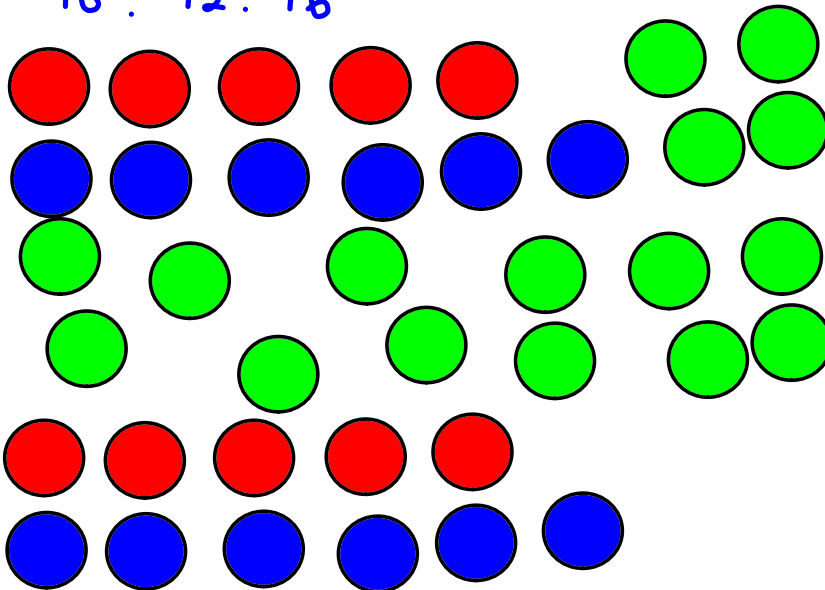
14. red : blue
 $5 : 6$



b) blue : green
 $3 : 4$



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



(b) $\frac{10}{5} : \frac{12}{6} : \frac{16}{8}$
 satisfies all 3.

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

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

$$8:15$$

$$14:21$$

$$2:3$$

$$8:12$$

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

$$c) 56:104:88$$

$$42:78:66$$

$$28:52:44$$

$$7:13:11$$

$$14:26:22$$

$$7:13:11$$

They are equivalent

$$d) 20:70:50$$

$$30:105:75$$

$$2:7:5$$

$$\div 15$$

$$2:7:5$$

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

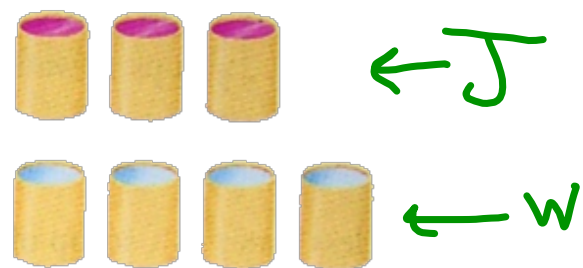
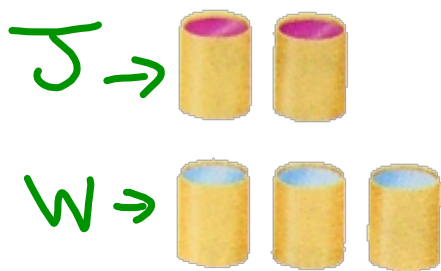
420¢ for 12

\$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.



A

Juice : Water
2 : 3
 $\times 4$ $\times 4$
8 : 12

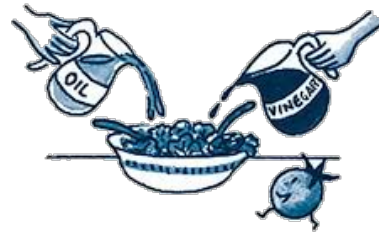
make
T2
the
same
for
both

A is weaker
less Juice

B

Juice : Water
3 : 4
 $\times 3$ $\times 3$
9 : 12

B is stronger
more Juice



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.



Make T2 the same for both.

Erica Coffee: Water

$$2 : 5 \xrightarrow{\times 7} 14 : 35$$

Jim Coffee: Water

$$3 : 7 \xrightarrow{\times 5} 15 : 35$$

Stronger (more coffee)

Or



C : W

$$2 : 5 \xrightarrow{\div 5} 0.4 : 1$$

C : W

$$3 : 7 \xrightarrow{\div 7} 0.42 : 1$$

Stronger

You can compare ratios either by:

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Class/Homework

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4(a,d,f),

#5(a,d,f),

#6,

#7,

#8,

#9

Term 1 : Term 2

$$4a) \quad 3:12$$

$$1:\square$$

$$5a) \quad 16:4$$

$$T2=1 \quad \square:1$$