



Grade 8 Warm Up

Mar. 24, 2016

Test on Unit 5 April 6 (Wednesday)

1) The ratio of cats to dogs at the animal shelter is 4 to 5.
How many cats could there be? How many dogs?

Write six different answers.

$C : D$
 $4 : 5$
 $8 : 10$
 $12 : 15$
 $16 : 20$
 $20 : 25$
 $24 : 30$
 $28 : 35$



2) The length-to-width ratio of Colby's poster is 3:2.
The poster is 90 cm long. How wide is it?

$L : W$
 $3 : 2$
 $\times 30 \swarrow \quad \searrow \times 30$
 $90\text{cm} : \boxed{60}$

The width of the poster 60cm

Go over homework , pg. 266 # 1,2, 4-15

1. A part to a whole ratio compares part of a group to a whole group, while a part to a part ratio compare one group to another group.

Example Part to a whole girls to all students
Part to a part girls to boys

2. 4 : 35 can be written as a percent by changing the equivalent fraction to a decimal, and then to the equivalent percent

$$4/35 = 0.114 \text{ or } 11.4\%$$

$$4 \text{ a) } 5:8$$

$$\frac{5}{8}$$

$$\text{b) } 12:16$$

$$\frac{12}{16} \begin{matrix} \div 4 \\ \div 4 \end{matrix} = \frac{3}{4}$$

$$\text{c) } 4:9$$

$$\frac{4}{9}$$

$$\text{d) } 24:25$$

$$\frac{24}{25}$$

$$\text{e) } 19:20$$

$$\frac{19}{20} = \frac{95}{100} \text{ } 95\%$$

$$\text{b) } 12:15$$

$$\frac{12}{15} = \frac{4}{5} = \frac{80}{100} \text{ } 80\%$$

$$\text{c) } 3:8$$

$$\frac{3}{8} = 0.375$$

$$37.5\%$$

$$\text{d) } 5:6$$

$$\frac{5}{6} = 0.833$$

$$83.3\%$$

6. a) 3:5 → red:green
 b) 7:5 → blue:green
 c) 5:15 → green:all
 d) 3:5:7 → red:green:blue
 e) 3:12 → red to green and blue

7a) orange to all

$$\frac{3}{15}$$

b) white to all


$$\frac{1}{15}$$

c) yellow to pink


$$\frac{7}{4} \quad 7 \text{ to } 4$$

d) yellow:white:orange

$$7:1:3 \quad 7 \text{ to } 1 \text{ to } 3$$

8. (a) T- shirts to all garments
 $5 : 7$

T-shirt : Shorts
 $5 : 2$

 (b) $\frac{5}{7} = 0.714$ or 71.4%

9 (a) (i) Green counter to red counters
 9 to 7

(ii) girls to boys
 8 to 3

(iii) Flour to sugar to milk
 3 to 1 to 2

(b) part to whole

(i) green to all
 9 to 16

red to all
 7 to 16

(ii) girls to students
 8 to 11

boys to students
 3 to 11

(iii) flour to ingredients
 3 to 6

sugar to ingredients
 1 to 6

milk to ingredients
 2 to 6

10. (a) boys to girls

$$12:14$$

(b) girls to boys

$$14:12$$

(c) boys to students Percent

$$\frac{12}{26}$$

$$0.462 \text{ or } 46.2\%$$

(d) 2 boys leave

new ratio

boys to students

percent

$$10:24$$

$$\frac{10}{24}$$

$$0.417 \text{ } 41.7\%$$

11. 8 red, 5 green, 2 orange, 3 purple, 1 blue and 6 yellow

(a) (i) red: purple

$$8:3$$

(ii) green : blue

$$5:1$$

(iii) purple : blue: green

$$3:1:5$$

(iv) orange and yellow : total candies

$$8:25$$

(b) 3 red, 2 green and 4 yellow were eaten

(i) red: purple

$$5:3$$

(ii) green : blue

$$3:1$$

(iii) purple : blue: green

$$3:1:3$$

(iv) orange and yellow : total candies

$$4:16$$

$$5r, 3g, 2o, 3p \\ 1b, 2y$$

12(a) explain $\frac{2}{7}$ as a ratio

2 out of 7

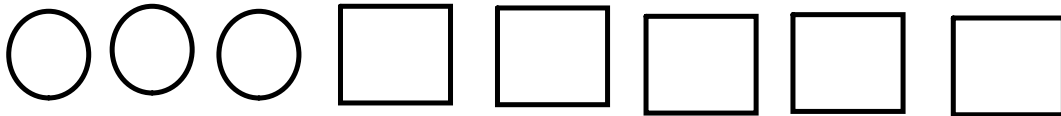
(b) real life situation

2 red markers, 7 green markers



13 Draw diagrams for

(a) two different for 3: 5



(b) 7 : 1

(c) 5 : 2 : 4

(d)

14. (a) total amount of ingredients



11 cups

(b) oranges to apples



3 : 2

mayonnaise to macaroni

2 : 3

apples to mayonnaise to celery

2 : 2 : 1

(c) apples and oranges to total ingredients



5 : 11

fraction

$\frac{5}{11}$

percent

0.455

45.5%

(d) with 2 oranges instead of 3

oranges to apples

2 : 2

mayonnaise to macaroni

2 : 3

apples to mayonnaise to celery

2 : 2 : 1

(c) apples and oranges to total ingredients

4 : 10

fraction

$\frac{4}{10}$

percent

40%

15.

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1. Answer will vary
Students' opinion

2. A ratio is in simplest form if
a) there are no common factors in the terms.

b) Example 1 is simplest form,
Ex 2 is not.

4. Are $3:2$ and $2:3$ the same?
★
Order is important, so no the ratios are not the same.

5 a) $1:2$
★ ★ $2:4, 4:8, 8:16$

b) $2:3$
 $4:6, 40:60, 10:15$

c) $1:4$
 $2:8, 4:16, 10:40$

$$6 \text{ a) } 3:4$$

$$\star 30:40, 6:8, 12:16$$

$$\star \text{ b) } 14:4$$

$$28:8, 42:12, 7:2$$

$$\text{ c) } 24:25$$

$$240:250, 48:50, 72:75$$

$$7 \text{ a) } 1:3:6$$

$$2:6:12, 4:12:24, 3:9:18$$

$$\text{ b) } 12:5:7$$

$$24:10:14, 36:15:21, 48:20:28$$

$$\star \text{ c) } 24:4:8$$

$$12:2:4, 240:40:80, 6:1:2$$

$$\star 8 \text{ a) } 5:15$$

$$1:3$$

$$\text{ b) } 6:9$$

$$2:3$$

$$\star \text{ c) } 3:12:18$$

$$1:4:6$$

$$\text{ d) } 110:70:15$$

$$22:14:3$$

9 a) chairs : tables

$$\star \quad 32 : 8$$

$$4 : 1$$

b) Amer cars : Jap. cars

$$4 : 12$$

$$1 : 3$$

\star c) blue paint : yellow paint : white paint

$$6 : 2 : 1$$

d) Canadian stamps : Amer stamps : Asian stamps

$$12 : 24 : 9$$

$$4 : 8 : 3$$

10 a) $2 : 7 = \frac{\quad}{8} : 28$

$$\star \quad \begin{array}{cc} \times 4 & \times 4 \\ 2 & 7 \end{array} \quad \frac{\quad}{8} \quad : 28$$

\star b) $5 : 12 = 25 : \frac{\quad}{60}$

$$\begin{array}{cc} \times 5 & \times 5 \\ 5 & 12 \end{array} \quad = \quad 25 : \frac{\quad}{60}$$

\star c) $\frac{\quad}{40} : 24 = \frac{5}{\quad} : \frac{3}{\quad}$

$$\frac{\quad}{40} : 24 = \frac{5}{\quad} : \frac{3}{\quad}$$

$$\begin{array}{cc} \times 8 & \times 8 \\ 5 & 3 \end{array}$$

d) $3 : \underline{7} : 11 = 30 : 70 : 110$

$$11. \quad 2:3:4 = 6:9:12$$

$$8:5:4 = 16:10:8$$

$$3:2:1 =$$

$$3:6:9 = 1:2:3$$

$$5:8:4$$

$$9:12:15 = 3:4:5$$

★ b) They are equivalent if each term is multiplied or divided by the same number.

12. non fiction: fiction

$$3:1$$

$$300:100$$

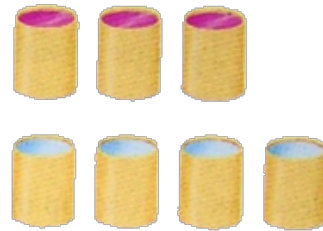
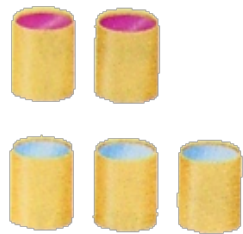
$$1500:500$$

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

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.



$$\begin{array}{l} \text{A} \\ \text{Juice : Water} \\ 2 : 3 \\ \times 3 \quad \times 3 \\ \hline 6 : 9 \end{array}$$

$$\begin{array}{l} \text{B} \\ \text{Juice : Water} \\ 3 : 4 \\ \times 2 \quad \times 2 \\ \hline 6 : 8 \end{array}$$

The more the water the weaker the punch

Punch B is stronger Reason being

$$\begin{array}{l} \text{A} \\ \text{J : W} \\ 2 : 3 \\ \div 3 \quad \div 3 \\ \hline 0.\bar{6} : 1 \end{array}$$

$$\begin{array}{l} \text{B} \\ \text{J : W} \\ 3 : 4 \\ \div 4 \quad \div 4 \\ \hline 0.75 : 1 \end{array}$$

↑
more
juice
stronger

Second method
take second term
to 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

$$\begin{array}{r} 2 : 5 \\ \times 3 \quad \times 3 \\ \hline 6 : 15 \end{array}$$

Jim Coffee: Water

$$\begin{array}{r} 3 : 7 \\ \times 2 \quad \times 2 \\ \hline 6 : 14 \end{array}$$

Jim's coffee is stronger b/c it has less water when both have 6 scoops of coffee

Or



E

$$\begin{array}{r} C : W \\ 2 : 5 \\ \times 7 \quad \times 7 \\ \hline 14 : 35 \end{array}$$

J

$$\begin{array}{r} C : W \\ 3 : 7 \\ \times 5 \quad \times 5 \\ \hline 15 : 35 \end{array}$$

Jim has more coffee than Erica when both have 35 cups of water

Method 3)

$$\begin{array}{r} 2 : 5 \\ \div 5 \quad \div 5 \\ \hline 0.4 : 1 \end{array}$$

$$\begin{array}{r} 3 : 7 \\ \div 7 \quad \div 7 \\ \hline 0.43 : 1 \end{array}$$

↑ more coffee to water ratio

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

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4(a,d,f),

#5(a,d,f),

#6,

#7,

#8,

#9

$$\begin{array}{l} 4a) \quad 3:12 \\ \quad \quad \div 3 \quad \downarrow \quad \div 3 \\ \quad \quad \underline{1} : 4 \end{array}$$

Take the
1st term
to a 1

