

MasterMath

NUMBER SENSE

Ratios





You and two friends go hiking, and you have 6 apples to share. How many apples should each of you get?

6 apples ÷ 3 people = 2 apples per person

$$6/3 = 2/1$$

$$6:3 \text{ or } 2:1$$

$$6 \text{ to } 3 \text{ or } 2 \text{ to } 1$$

A Ratio is a comparison of two quantities using division

Ratios



45 MPH = 45 miles / 1 hour

$$\frac{45}{1} = \frac{45 \times 2}{1 \times 2} = \frac{45 \times 3}{1 \times 3} = \frac{45 \times 4}{1 \times 4}$$

$$45 \text{ miles} / 1 \text{ hour} = 90/2 = 135/3 = 180/4$$

$$45 : 1 = 90 : 2 = 135 : 3 = 180 : 4$$




4 boys per 2 girls = 4:2 or 4/2 = 2:1 or 2/1

A Ratio is a comparison of two quantities using division

Ratios

4 boys per 2 girls = 4:2 or $4/2 = 2:1$ or $2/1$



What if you needed 14 boys on the soccer team, and you wanted to keep the same ratio of boys to girls?

$$\frac{2}{1} = \frac{2 \times 7}{1 \times 7} = \frac{14}{7}$$

$$\frac{2}{1} \times \frac{14}{x}$$

$$2x = 14$$


$$\frac{2x}{2} = \frac{14}{2}$$

$$x = 7$$

A Ratio is a comparison of two quantities using division

Ratio

Comparing ratios: APPLES : ORANGES



2:3	3:4	4:5
$2/3$	$3/4$	$4/5$
.67	.75	.8

If you had 6 oranges you'd have $(.67 \times 6)$ apples
 $.67 \times 6 = 4$

If you had 6 oranges you'd have $(.75 \times 6)$ apples
 $.75 \times 6 = 4.5$

If you had 6 oranges you'd have $(.8 \times 6)$ apples
 $.8 \times 6 = 4.8$

A Ratio is a comparison of two quantities using division

Ratio

You try it!

What is the ratio of cats to dogs?



Ratio

You try it!

What is the ratio of cats to dogs?



2 cats to 1 dog
2:1
2/1

Ratio

You try it!

Write this ratio in simplest form:
12 : 60

Ratio

You try it!

Write this ratio in simplest form:
12 : 60

12/60

$$\frac{12}{60} = \frac{12 \div 12}{60 \div 12} = \frac{1}{5} = 1:5$$

Ratio

You try it!

My cookie recipe calls for 2 cups of flour and 5 oz. of chocolate chips. I plan to use 20 oz. of chocolate chips. How much flour do I need?



Ratios

You try it!

My cookie recipe calls for 2 cups of flour and 5 oz. of chocolate chips. I plan to use 20 oz. of chocolate chips. How much flour do I need?



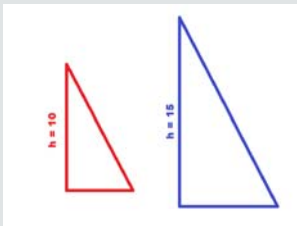
$$\frac{2c}{5oz} = \frac{?c}{20oz}$$

$$\frac{4 \times 2c}{4 \times 5oz} = \frac{8c}{20oz}$$

Ratios

You try it!

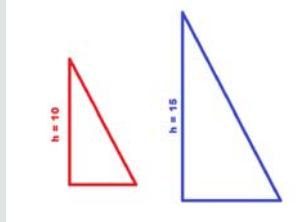
Find the ratio that describes the height of the red triangle to the height of the blue triangle.



Ratios

You try it!

Find the ratio that describes the height of the red triangle to the height of the blue triangle.



$10:15 = 2:3$

Ratios

You try it!

Now, try it on your own. Go to www.MasterMath.info download Ratios from the Worksheets Page, and test your skill.

Ratios
