

5-1 Ratios

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Mar 3-9:44 AM

In basketball practice, Kathlene made 17 baskets in 25 attempts. She compared the number of baskets she made to the total number of attempts she made by using the ratio $\frac{17}{25}$. A **ratio** is a comparison of two quantities by division.

Kathlene can write her ratio of baskets made to attempts in three different ways.

$$\frac{17}{25}$$

17 to 25

17:25

Mar 21-9:16 AM

Three ways to write a ratio.

$$\frac{17}{25}$$

17 to 25

17:25

Mar 21-9:17 AM

Twenty students are asked to choose their favorite music category. Eight choose pop, seven chose hip hop, and five chose rock. Write each ratio in all three forms.

A. rock to hip hop

$$\frac{5}{7} \quad 5 \text{ to } 7 \quad 5:7$$

B. hip hop to pop

$$\frac{7}{8} \quad 7 \text{ to } 8 \quad 7:8$$

C. rock to pop and hip hop

$$\frac{5}{15} = \frac{1}{3} \quad 1 \text{ to } 3 \quad 1:3$$

Mar 21-9:19 AM

Nineteen students are asked to choose their favorite sport. Nine choose rock climbing, four chose kite surfing, and six chose snow boarding. Write each ratio in all three forms.

A. snow boarding to rock climbing

$$\frac{6}{9} = \frac{2}{3} \quad 2 \text{ to } 3 \quad 2:3$$

B. kite surfing to snow boarding

$$\frac{4}{6} = \frac{2}{3} \quad 2 \text{ to } 3 \quad 2:3$$

C. rock climbing to kite surfing and snowboarding

$$\frac{9}{10} \quad 9 \text{ to } 10 \quad 9:10$$

Mar 3-9:06 AM

Sometimes a ratio can be simplified. To simplify a ratio, first write it in fraction form and then simplify the fraction.

Mar 3-9:08 AM

On average, most people can read about 600 words in 3 minutes. Write the ratio of words to minutes in all three forms. Write your answer in simplest form.

$\frac{\text{words}}{\text{minute}} = \frac{600}{3}$ *Write the ratio as a fraction.*

$\frac{\text{words}}{\text{minute}} = \frac{600 \div 3}{3 \div 3}$ *Simplify.*

$\frac{\text{words}}{\text{minute}} = \frac{200}{1}$ *For every minute, there are 200 words read.*

The ratio of words to minutes is 200 to 1.

Mar 21-9:21 AM

At Casitas Middle School there are 456 microscopes for 152 students. Write the ratio of microscopes to students in all three forms. Write your answer in simplest form.

$$\frac{456}{152} = \frac{3}{1}$$

3 to 1 3:1

Mar 3-9:10 AM

To compare ratios, write them as fractions with common denominators. Then compare the numerators.

Honey-lemon cough drops come in packages of 30 drops per 10-ounce bag. Cherry cough drops come in packages of 24 drops per 6-ounce bag. Compare the ratio of drops per ounces for each bag of cough drops.

	Honey-lemon	Cherry
Drops	30	24
Ounces	10	6

$$\begin{array}{l} HL \\ \frac{30}{10} = \frac{3}{1} \end{array} \quad \begin{array}{l} C \\ \frac{24}{6} = \frac{4}{1} \end{array}$$

Mar 3-9:10 AM

Mar 21-9:21 AM

Jelly Beans come in small packages of 25 per 5 ounce package and large packages of 56 per 8 ounce package. Compare the ratio of jelly beans per ounce for each of the packages.

	Large	Small
Jelly beans	56	25
Ounces	8	5

$$\begin{array}{l} L \\ \frac{56}{8} = \frac{7}{1} \end{array} \quad \begin{array}{l} S \\ \frac{25}{5} = \frac{5}{1} \end{array}$$

Mar 3-9:10 AM