What is a unit rate?
Where do we see them?
Why is it good to know them?

How/when could we use proportions outside of math class?

Oct 5-9:29 AM

3-4 Ratio and Proportion

A **ratio** is a comparison of two numbers by division. The ratio of a to b is $a:b$ or $\frac{a}{b}$, where $b \neq 0$.

A **proportion** is an equation that states that two ratios are equal.

$\frac{a}{b} = \frac{c}{d}$ for $b \neq 0$ and $d \neq 0$

Ex $\frac{1}{2} = \frac{3}{6}$

$1(6) = 2(3)$

Ex $\frac{2}{7} = \frac{10}{35}$

$2(35) = 7(10)$

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1 Solve each proportion.

a. $\frac{x}{8} = \frac{5}{6}$

b. $\frac{2}{x} = \frac{2}{9}$

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2 EXAMPLE Solving Multi-Step Proportions

Solve the proportion $\frac{x+4}{5} = \frac{x-2}{7}$.

$\frac{x+4}{5} = \frac{x-2}{7}$

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2 Solve each proportion.

b. $\frac{x+2}{14} = \frac{x}{10}$

TRY

$\frac{3}{w+6} = \frac{5}{w-4}$

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Applications: Set up a proportion then solve.

Ex3a) If 3 students of 20 got an A on their quiz, about how many should get A's out of 65 students?

Ex3b) You are riding your bicycle. It takes you 38 minutes to go 10 miles, how long will it take you to go 14 miles?

Aug 30-1:48 PM