4-2: Learning Goals

- Let's calculate some rates with fractions.

4-2-1: Division

$$5 \div \frac{1}{3}$$

$$2 \div \frac{1}{3}$$

$$\frac{1}{2} \div \frac{1}{3}$$

$$2\frac{1}{2} \div \frac{1}{3}$$

4-2-2: A Train Is Traveling at ...

A train is traveling at a constant speed and goes 7.5 kilometers in 6 minutes. At that rate:

1. How far does the train go in 1 minute?

2. How far does the train go in 100 minutes?

Freight train Copyright Owner: hpgruesen License: Public Doman Via: Pixabay

4-2-3: Comparing Running Speeds

Lin ran $2\frac{3}{4}$ miles in $\frac{2}{5}$ of an hour. Noah ran $8\frac{2}{3}$ miles in $\frac{4}{3}$ of an hour.

4-2-3: Comparing Running Speeds

Lin ran $2\frac{3}{4}$ miles in $\frac{2}{5}$ of an hour. Noah ran $8\frac{2}{3}$ miles in $\frac{4}{3}$ of an hour.

1. Pick one of the questions that was displayed, but don't tell anyone which question you picked. Find the answer to the question.

2. When you and your partner are both done, share the answer you got (do not share the question) and ask your partner to guess which question you answered. If your partner can't guess, explain the process you used to answer the question.

3. Switch with your partner and take a turn guessing the question that your partner answered.

4-2-4: Scaling the Mona Lisa

In real life, the Mona Lisa measures $2\frac{1}{2}$ feet by $1\frac{3}{4}$ feet. A company that makes office supplies wants to print a scaled copy of the Mona Lisa on the cover of a notebook that measures 11 inches by 9 inches.

1. What size should they use for the scaled copy of the Mona Lisa on the notebook cover?

2. What is the scale factor from the real painting to its copy on the notebook cover?

3. Discuss your thinking with your partner. Did you use the same scale factor? If not, is one more reasonable than the other?

4-2: Lesson Synthesis

- What are strategies we can use to find solutions to ratio problems that involve fractions?

- How are those strategies different from and similar to ways we previously solved ratio problems that didn't involve fractions?

4-2: Learning Targets

- I can solve problems about ratios of fractions and decimals.

4-2-5: Comparing Orange Juice Recipes

- Clare mixes $2\frac{1}{2}$ cups of water with $\frac{1}{3}$ cup of orange juice concentrate.

- Han mixes $1\frac{2}{3}$ cups of water with $\frac{1}{4}$ cup of orange juice concentrate.

Whose orange juice mixture tastes stronger? Explain or show your reasoning.