

DOINGWHATWORKS



SAMPLE MATERIAL

Fraction Problem: Part of a Part

Patriot Elementary School, Nebraska

Topic: Improving Mathematical Problem Solving in Grades 4 Through 8

Practice: Problem-Solving Instruction


Sixth-grade students at Patriot Elementary use several strategies to solve this part-of-a-part, real-world problem. Included here are the problem scenario and statement and samples of student work using different methods to solve the problem.

Fraction Problem: Part of a Part

Mrs. Logan went to the Pride Council bake sale to buy some brownies. All the pans of brownies are square. A pan of brownies cost \$12. Customers could buy any fractional part of a pan and pay that fraction of \$12. For example, $\frac{1}{2}$ a pan costs $\frac{1}{2}$ of \$12.

Mrs. Logan bought $\frac{3}{4}$ of a pan that was $\frac{2}{5}$ full. How much did she pay?

Student Work (1)



① First we made an area map. We divided the the square into 5th vertically and colored in two rows.

② Next we divided the square into 4th horizontally. We colored in 3 of the rows of 4.

③ Then we counted how many squares were colored in twice. There was six. We made 6 or numerator then we counted how many total squares there were. There was 20. It became our denominator: $\frac{6}{20}$.

④ Next we simplified $\frac{6}{20}$ and we divided the numerator and denominator by 2 and the fraction was $\frac{3}{10}$.

⑤ Last we divided \$12 by 10 and got \$1.20. Then we multiplied it by 3 because the fraction was $\frac{3}{10}$. The answer is \$3.60.

Student Work (2)

$\frac{3}{4}$ of $\frac{2}{5}$ $\frac{2}{5} = \frac{40}{100}$ $\frac{3}{4}$ of

$40 = 30$ $\frac{30}{100} = \frac{3}{10}$ \$3.60

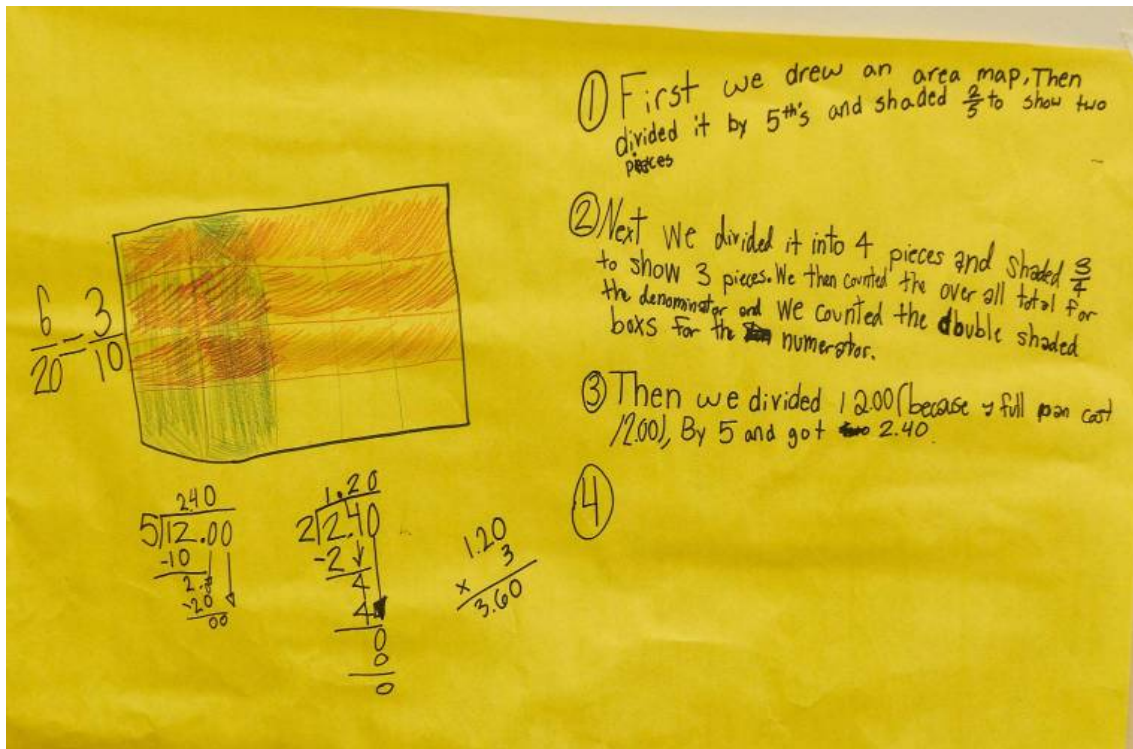
1. First we changed $\frac{2}{5}$ to $\frac{40}{100}$ because $\frac{40}{100}$ is equivalent to $\frac{2}{5}$.

2. Next we found $\frac{3}{4}$ of $\frac{40}{100}$ by dividing it by four and multiplying by three we got $\frac{30}{100}$.

3. Then we had to make it out of one whole. Not $\frac{3}{4}$ and it was $\frac{30}{100} = \frac{3}{10}$.

4. We knew $\frac{1}{10} = \$1.20$ so we multiplied by 3 and got \$3.60.

Student Work (3)



Student Work (4)

