

Name _____

Lesson Objective: Decompose a fraction by writing it as a sum of fractions with the same denominators.

Write Fractions as Sums

A **unit fraction** tells the part of the whole that 1 piece represents.
A unit fraction always has a numerator of 1.

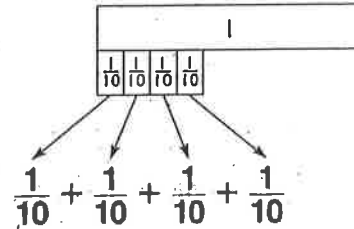
Bryan has $\frac{4}{10}$ pound of clay for making clay figures. He wants to use $\frac{1}{10}$ pound of clay for each figure. How many clay figures can he make?

Use fraction strips to write $\frac{4}{10}$ as a sum of unit fractions.

Step 1 Represent $\frac{4}{10}$ with fraction strips.

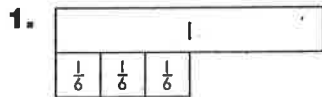
Step 2 Each $\frac{1}{10}$ is a unit fraction. Write a $\frac{1}{10}$ addend for each $\frac{1}{10}$ -strip you used to show $\frac{4}{10}$.

Step 3 Count the number of addends. The number of addends represents the number of clay figures Bryan can make.



So, Bryan can make 4 clay figures.

Write the fraction as the sum of unit fractions.



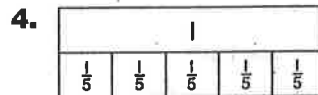
$$\frac{3}{6} = \underline{\quad} + \underline{\quad} + \underline{\quad}$$



$$\frac{2}{4} = \underline{\quad} + \underline{\quad}$$



$$\frac{4}{8} = \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad}$$



$$\frac{5}{5} = \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad}$$

Write Fractions as Sums

Write the fraction as a sum of unit fractions.

1. $\frac{4}{5} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

Think: Add $\frac{1}{5}$ four times.

2. $\frac{3}{8} =$ _____

3. $\frac{6}{12} =$ _____

4. $\frac{4}{4} =$ _____

Write the fraction as a sum of fractions three different ways.

5. $\frac{7}{10}$

6. $\frac{6}{6}$

Problem Solving 

7. Miguel's teacher asks him to color $\frac{4}{8}$ of his grid. He must use 3 colors: red, blue, and green. There must be more green sections than red sections. How can Miguel color the sections of his grid to follow all the rules?

8. Petra is asked to color $\frac{6}{6}$ of her grid. She must use 3 colors: blue, red, and pink. There must be more blue sections than red sections or pink sections. What are the different ways Petra can color the sections of her grid and follow all the rules?

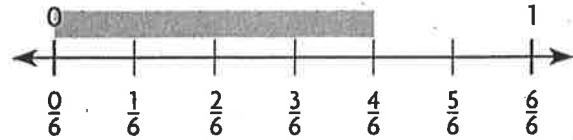
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Add Fractions Using Models

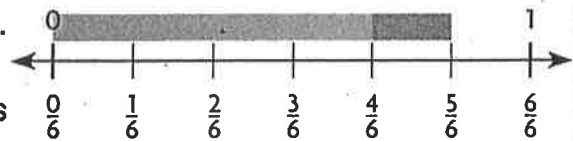
Fractions with like denominators have the same denominator. You can add fractions with like denominators using a number line.

Model $\frac{4}{6} + \frac{1}{6}$.

Step 1 Draw a number line labeled with sixths. Model the fraction $\frac{4}{6}$ by starting at 0 and shading 4 sixths.



Step 2 Add the fraction $\frac{1}{6}$ by shading 1 more sixth.

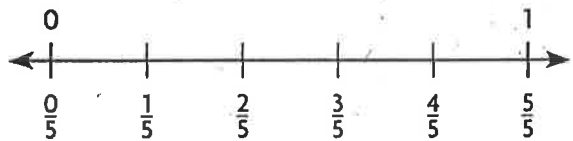


Step 3 How many sixths are there in all? 5 sixths
Write the number of sixths as a fraction.

5 sixths = $\frac{5}{6}$ $\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$

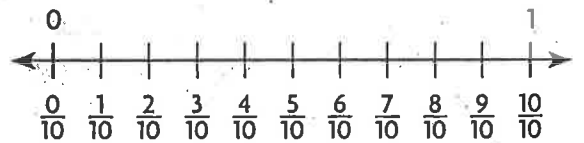
1. Model $\frac{1}{5} + \frac{4}{5}$.

$\frac{1}{5} + \frac{4}{5} =$ _____



Find the sum. Use a model to help.

2. $\frac{2}{10} + \frac{4}{10}$



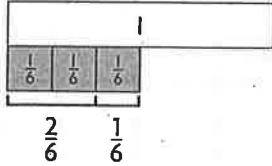
3. $\frac{1}{4} + \frac{1}{4}$



Add Fractions Using Models

Find the sum. Use fraction strips to help.

1. $\frac{2}{6} + \frac{1}{6} = \frac{3}{6}$



2. $\frac{4}{10} + \frac{5}{10} =$ _____

3. $\frac{1}{3} + \frac{2}{3} =$ _____

4. $\frac{2}{4} + \frac{1}{4} =$ _____

5. $\frac{2}{12} + \frac{4}{12} =$ _____

6. $\frac{1}{6} + \frac{2}{6} =$ _____

7. $\frac{3}{12} + \frac{9}{12} =$ _____

8. $\frac{3}{8} + \frac{4}{8} =$ _____

9. $\frac{3}{4} + \frac{1}{4} =$ _____

10. $\frac{1}{5} + \frac{2}{5} =$ _____

Problem Solving 

11. Lola walks $\frac{4}{10}$ mile to her friend's house. Then she walks $\frac{5}{10}$ mile to the store. How far does she walk in all?
- _____

12. Evan eats $\frac{1}{8}$ of a pan of lasagna and his brother eats $\frac{2}{8}$ of it. What fraction of the pan of lasagna do they eat in all?
- _____

13. Jacqueline buys $\frac{2}{4}$ yard of green ribbon and $\frac{1}{4}$ yard of pink ribbon. How many yards of ribbon does she buy in all?
- _____

14. Shu mixes $\frac{2}{3}$ pound of peanuts with $\frac{1}{3}$ pound of almonds. How many pounds of nuts does Shu mix in all?
- _____