Same Whole Fraction Bars

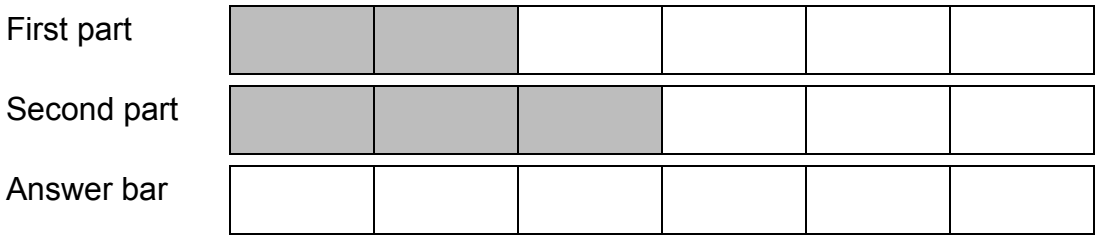
Join and separate equal fractional parts with bar drawings and equations.

Name: _____ Date: _____

Part 1 - Join and separate on equal bars

Listen to your teacher's directions before you begin. Each bar below is one same-size whole. The equal sections show equal parts. Use pencil shading.

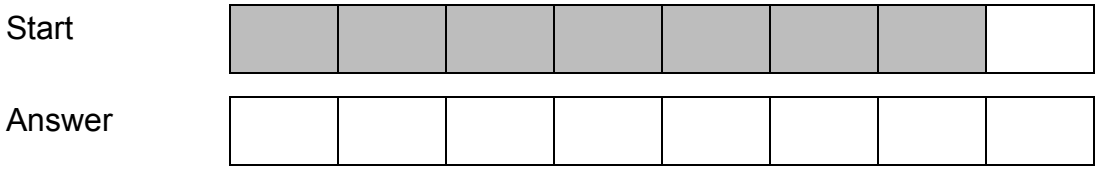
1. Join the parts. Shade the answer bar to show both amounts together. Then write the matching equation.



Equation: ____/6 + ____/6 = ____/6

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2. Separate the parts. The top bar shows the starting amount. Cross out 3 shaded parts. Shade the answer bar to show what is left. Then write the matching equation.



Equation: ____/8 - ____/8 = ____/8

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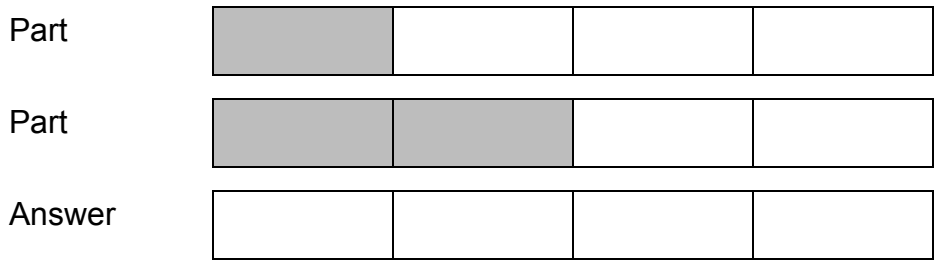
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Part 2 - Show your fraction thinking

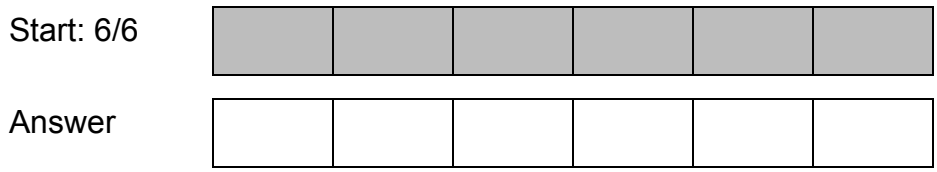
Remember: the denominator tells how many equal parts are in one whole. Keep every bar in a problem the same-sized whole.

3. Join. Shade the answer bar. Write an equation for the two parts shown.



Equation: ____/4 + ____/4 = ____/4

4. Separate. Shade the answer bar to show what remains after taking away 4 equal parts.



Equation: 6/6 - 4/6 = ____/6

5. Make your own same-whole problem. Draw equal parts in bars. Show either joining or separating, then write its equation. Your result must be no more than one whole.

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Join and separate equal fractional parts with bar drawings and equations.

Answer key and teaching notes

Materials and setup: Supplied: all student pages with printed fraction bars. Additionally needed: one pencil per student; optional gray crayon or pencil for shading. Print and supply all student pages, keeping teacher-key pages separate. Give each student a pencil and direct students to complete Part 1 before Part 2. Do not provide fraction strips or prewritten equations; the printed bars are the model.

Teaching script: Say: “Look at the bars in one problem. They are the same-sized whole, and their sections are equal. When we join, we count shaded parts together. When we separate, we take shaded parts away. Keep the denominator because the whole is still split into the same number of equal parts.” Point to one bar only; do not solve an item. Say: “Shade or cross out carefully, then let your equation match your bar.”

Observe and respond: During Part 1, check whether students count equal sections rather than measuring shaded length. Ask a student who changes denominators, “How many equal parts is this same whole still divided into?” During Part 2, check that the answer-bar shading matches the written numerator. Record each item as correct, revise, or explain orally. Accept pencil shading, hatching, or clear X marks.

Answers:
1. 2/6 + 3/6 = 5/6. The answer bar has 5 of 6 equal parts shaded.
2. 7/8 - 3/8 = 4/8. Student crosses out any 3 of the 7 shaded start parts; the answer bar has 4 of 8 parts shaded.
3. 1/4 + 2/4 = 3/4. Shade 3 of 4 equal parts in the answer bar.
4. 6/6 - 4/6 = 2/6. Shade 2 of 6 equal parts in the answer bar.
5. Sample: Draw thirds; shade 1/3 on one bar and 1/3 on another; shade 2/3 on the answer bar; write 1/3 + 1/3 = 2/3.

Item 5 rubric: Award full credit when the student draws equal partitions, uses the same denominator in all three fractions, makes shading agree with the operation, and writes a correct addition or subtraction equation with a result no greater than one whole. A different valid same-denominator example is correct.

Source credit: New York State Next Generation Mathematics Learning Standards, NY-4.NF.3.a, “Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.” https://lessonmakerpro.com/standards/ny-nextgen-math/ny-4-nf-3-a