

# Fraction Pathways

Add and subtract equal-denominator fractions with models.

**GRADE 4 • TEKS 4.3.E**

**4.3.E** "represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations;"

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## SAME-SIZE PARTS

When fractions have the same denominator, their parts are the same size. Add or subtract the numerators, and keep the denominator the same. Fraction bars and number lines can help you see the parts.

## WORKED EXAMPLE

Use the fraction bars to find  $5/13 + 6/13$ .

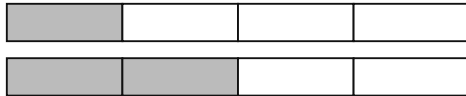


- Both fractions are made of thirteenths.
- Add the shaded parts:  $5 + 6 = 11$ .
- Keep the denominator 13.
- Write  $11/13$ .

**Answer:  $11/13$**

## PRACTICE 6 problems

- 1** What sum do the fraction bars show?



**ANSWER** \_\_\_\_\_

- 2** The first bar shows the amount at the start. The second bar shows the amount removed. What fraction remains?



**ANSWER** \_\_\_\_\_

- 3** Find the sum:  $2/9 + 1/9 = \underline{\hspace{1cm}}$ .

**ANSWER** \_\_\_\_\_

- 4** Find the difference:  $8/10 - 4/10 = \underline{\hspace{1cm}}$ .

**ANSWER** \_\_\_\_\_

- 5** Find the sum:  $3/7 + 1/7 = \underline{\hspace{1cm}}$ .

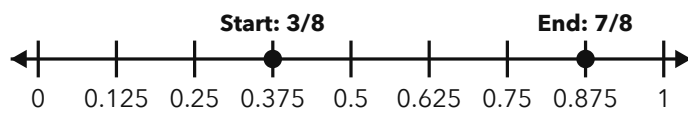
**ANSWER** \_\_\_\_\_

- 6** Find the difference:  $9/12 - 2/12 = \underline{\hspace{1cm}}$ .

**ANSWER** \_\_\_\_\_

## APPLY IT Show your work

- 1** The number line shows when Jalen started and ended soccer practice. How long did he practice?



ANSWER \_\_\_\_\_

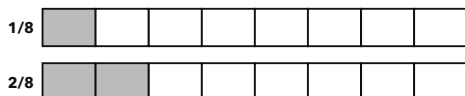
- 2** At coding club,  $\frac{7}{10}$  of a robot course is marked complete. The team finds errors in  $\frac{3}{10}$  of the course, so those sections are marked incomplete. What fraction of the course stays marked complete?

WORK SPACE

ANSWER \_\_\_\_\_

## CHALLENGE One step up

Noor says  $\frac{1}{8} + \frac{2}{8} = \frac{3}{16}$  because the denominators should be added. Use the fraction bars to explain Noor's error. Then write the correct sum.



WORK SPACE AND ANSWER

## PART 1 • PRACTICE

| # | PROBLEM                                                                                                      | ANSWER              |
|---|--------------------------------------------------------------------------------------------------------------|---------------------|
| 1 | What sum do the fraction bars show?                                                                          | <b>3/4</b>          |
| 2 | The first bar shows the amount at the start. The second bar shows the amount removed. What fraction remains? | <b>4/8, or 1/2</b>  |
| 3 | Find the sum: $2/9 + 1/9 = \underline{\hspace{1cm}}$ .                                                       | <b>3/9, or 1/3</b>  |
| 4 | Find the difference: $8/10 - 4/10 = \underline{\hspace{1cm}}$ .                                              | <b>4/10, or 2/5</b> |
| 5 | Find the sum: $3/7 + 1/7 = \underline{\hspace{1cm}}$ .                                                       | <b>4/7</b>          |
| 6 | Find the difference: $9/12 - 2/12 = \underline{\hspace{1cm}}$ .                                              | <b>7/12</b>         |

## PART 2 • APPLY IT

- 4/8 hour, or 1/2 hour** Subtract the start time from the end time:  $7/8 - 3/8 = 4/8$ . Simplify  $4/8$  to  $1/2$ .
- 4/10, or 2/5** Subtract the sections marked incomplete from the sections first marked complete:  $7/10 - 3/10 = 4/10$ . Simplify  $4/10$  to  $2/5$ .

## CHALLENGE

**The parts are eighths, so the denominator stays 8.  $1/8 + 2/8 = 3/8$ .**

Accept equivalent simplified forms, such as  $1/2$  for  $4/8$  and  $2/5$  for  $4/10$ . For the challenge, accept an explanation that equal denominators name the same-size parts and should not be added.