

## KEY CONCEPT OVERVIEW

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In Lesson 41, students find and use a pattern to calculate the sum of all fractional parts between 0 and 1. (See Sample Problem.)

## SAMPLE PROBLEM *(From Lesson 41)*

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Find the sum.

$$\begin{array}{ccccccccc} & & & & \mathbf{1} & & & & \\ & & & & \overbrace{\hspace{1.5cm}} & & & & \\ & & & & \mathbf{1} & & & & \\ & & & & \overbrace{\hspace{0.8cm}} & & & & \\ \frac{0}{5} + \frac{1}{5} + \frac{2}{5} + \frac{3}{5} + \frac{4}{5} + \frac{5}{5} & & & & & & & & \\ \underbrace{\hspace{10cm}} & & & & & & & & \\ & & & & \mathbf{1} & & & & \end{array}$$
$$\left(\frac{0}{5} + \frac{5}{5}\right) + \left(\frac{1}{5} + \frac{4}{5}\right) + \left(\frac{2}{5} + \frac{3}{5}\right) = 1 + 1 + 1 = 3$$

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at [GreatMinds.org](http://GreatMinds.org).

## HOW YOU CAN HELP AT HOME

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- Challenge your child to create his own math pattern problem by using addition, subtraction, multiplication, or any combination of the three operations. After he has finished creating the pattern and writing the numbers, try to figure out the pattern. For example, if he writes “1, 4, 7, 10, 13, 16, 19, ...”, the pattern is add 3.
- Prompt your child to find the sum of all whole numbers from 0 to 10. She can start by writing  $0 + 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10$ . Next, she can look for a pattern. She will find that 5 pairs of numbers each add up to 10 (i.e.,  $0 + 10 = 10$ ;  $1 + 9 = 10$ ; ...). There is one addend, 5, left, and  $50 + 5 = 55$ .

**TERMS** 

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**Denominator:** Denotes the fractional unit (e.g., *fifths* in 3 fifths as represented by the 5 in  $\frac{3}{5}$ ).

**Unit fraction:** A fraction with a numerator of 1. For example,  $\frac{1}{2}$ ,  $\frac{1}{3}$ , and  $\frac{1}{4}$  are all unit fractions.