

## KEY CONCEPT OVERVIEW

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In Topic C, students apply their growing knowledge of ratios and rates to problems involving fractions. In this topic, students are expected to divide fractions in order to answer questions. Students will also solve multi-step problems that may require using models such as **tape diagrams**, ratio tables, equations, and graphs.

You can expect to see homework that asks your child to do the following:

- Divide fractions and calculate unit rates for quantities given in fractions.
- Create tables and graphs to represent proportional relationships.
- Write equations to represent proportional relationships.
- Solve multi-step problems, for which students may be encouraged to use a tape diagram.

## SAMPLE PROBLEM (From Lesson 12)

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Which car can travel farther on one gallon of gas?

Blue Car: travels  $18\frac{2}{5}$  miles using 0.8 gallons of gas

Red Car: travels  $17\frac{2}{5}$  miles using 0.75 gallons of gas

**Find the unit rate:**      **Blue Car:**  $\frac{18\frac{2}{5}}{\frac{4}{5}} = \frac{92}{4} = 23$

**Red Car:**  $\frac{17\frac{2}{5}}{\frac{3}{4}} = \frac{87}{3} = 29\frac{1}{5}$

**Rate:**                      **23 miles per gallon**

**$29\frac{1}{5}$  miles per gallon**

**The red car traveled  $\frac{1}{5}$  mile farther on one gallon of gas.**

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**

You can help at home in many ways. Here are just a few tips to help you get started:

- Encourage your child to practice dividing fractions; for example,  $1\frac{2}{3} \div \frac{3}{4} = \frac{5}{3} \div \frac{3}{4} = \frac{5}{3} \times \frac{4}{3} = \frac{20}{9} = 2\frac{2}{9}$  and  $\frac{5}{1} \div \frac{3}{6} = \frac{3}{5} \div \frac{1}{6} = \frac{3}{5} \times \frac{6}{1} = \frac{18}{5} = 3\frac{3}{5}$ . Your child can use math sites online to practice. Ask your child's teacher for the links. You might also challenge your child to a race. Write several fraction division problems on notecards, one problem per card. Lay the cards face down and flip them over one at a time, racing your child to see who can solve the problem first.
- Discuss the meaning of markdowns (discounts or sale prices), markups (the difference between the wholesale price and retail price of an item), and commissions (a percentage of an item's price, earned by the salesperson for selling the item).
- Examine sales from a local store ad. Encourage your child to calculate and compare the unit price of each item when on sale and at its regular price.

**MODELS****Tape Diagram**