Lesson 2   Multi-Step Problem Solving

Multi-Step Example

Carolina and her friends went kayaking over the weekend. The distance and time traveled is shown in the table. Which person kayaked at the greatest speed, in miles per hour? 7.RP.1, **MP** 1

Person	Distance (mi)	Time (h)
Carolina	$3\frac{1}{2}$	$\frac{1}{2}$
Leslie	$5\frac{1}{4}$	$\frac{3}{4}$
Bryan	$4\frac{1}{2}$	$\frac{3}{4}$
Javier	$2\frac{1}{2}$	$\frac{1}{3}$

(A) Carolina   (C) Bryan

(B) Leslie   (D) Javier

Use a problem-solving model to solve this problem.

1 Understand

Read the problem. Circle the information you know.
Underline what the problem is asking you to find.

2 Plan

What will you need to do to solve the problem? Write your plan in steps.

Step 1 Calculate the _____ for each person.

Step 2 Compare the unit rates to determine _____ kayaks at the fastest rate, in miles per hour.

3 Solve

Use your plan to solve the problem. Show your steps.

Calculate each unit rate.

Carolina: $3\frac{1}{2} \div \frac{1}{2} =$ ____ mi/h   Leslie: $5\frac{1}{4} \div \frac{3}{4} =$ ____ mi/h

Bryan: $4\frac{1}{2} \div \frac{3}{4} =$ ____ mi/h   Javier: $2\frac{1}{2} \div \frac{1}{3} =$ ____ mi/h

Compare the unit rates to determine which person kayaked at the fastest rate.

Javier kayaked at a rate of ____ miles per hour, which is the fastest unit rate.

So, the correct answer is ____. Fill in that answer choice.

> **Read to Succeed!**
> Use the formula $r = d \div t$ to help you calculate the unit rate for each person.

4 Check

How do you know your solution is accurate?

_____

_____

_____

Lesson 2 *(continued)*

Use a problem-solving model to solve each problem.

1 Emma has been training for a bike race. She recorded her training times in the table below. Emma believes that if her average speed is above 15 miles per hour, then she has a good chance of winning the race. On which day(s) was Emma's average speed over 15 miles per hour? **7.RP.1, MP 2**
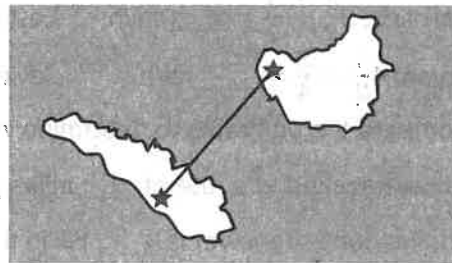
Day	Time (hr)	Distance (mi)
Monday	$1\frac{1}{2}$	27
Wednesday	$3\frac{1}{3}$	$63\frac{1}{3}$
Saturday	$2\frac{1}{2}$	35
Sunday	$\frac{3}{4}$	9

  (A) Monday only

  (B) Saturday only

  (C) Monday and Wednesday

  (D) All four days

3 A cheetah is one of the fastest land running animals. A cheetah can run $17\frac{1}{2}$ miles in $\frac{1}{4}$ hour. If a cheetah ran at this rate, how far would it travel in $1\frac{1}{2}$ hours? **7.NS.3, MP 2**

2 The table shows the percent commission that a sales person earns based on monthly sales. Last month, Elijah's sales totaled $8,924. How much was his commission last month? **7.RP.3, MP 1**

Sales	Commission
under $5,000	5%
$5,000 — $7,499	$9\frac{1}{2}$%
$7,500 — $9,999	$12\frac{1}{2}$%
$10,000 and higher	15%

4 🔥 **H.O.T. Problem** The distance between the two islands shown on the map is 210 miles. A ruler measures this distance on the map as $3\frac{1}{2}$ inches. How many miles would be represented by $1\frac{3}{4}$ inches on the map? **7.RP.1, MP 8**