3–4 Estimating Sums and Differences

MAIN IDEA
- Estimate sums and differences of decimals.

EXAMPLES Use Estimation to Solve Problems

POPULATION **The table below shows the population of the American colonies in 1770.**

Colony	Population (thousands)	Colony	Population (thousands)
Connecticut	183.9	New York	162.9
Delaware	35.5	North Carolina	197.2
Georgia	23.4	Pennsylvania	240.1
Maryland	202.6	Rhode Island	58.2
Massachusetts	235.3	South Carolina	124.2
New Hampshire	62.4	Virginia	447.0
New Jersey	117.4		

Source: *The World Almanac*

1 **Estimate the total population of North Carolina and South Carolina.**

Round each number to the nearest hundred for easier adding.

197.2 ⟶ ☐ 197.2 rounds to ☐.

+ 124.2 ⟶ + ☐ 124.2 rounds to ☐.

☐

There were about ☐ thousand people in North Carolina and South Carolina.

2 **Estimate how many more people lived in Rhode Island than in Georgia in 1770.**

Round each number to the nearest ten for easier subtracting.

58.2 ⟶ ☐ 58.2 rounds to ☐.

+ 23.4 ⟶ − ☐ 23.4 rounds to ☐.

40

There were about 40 thousand more people.

Check Your Progress **Refer to the table that shows the population of the American colonies in 1770.**

a. Estimate the total number of people in Pennsylvania and New Jersey in 1770.

b. Estimate how many more people were in Massachusetts than in Connecticut.

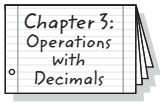
BUILD YOUR VOCABULARY (page 56)

Clustering is an estimation method in which a group of numbers that are _____ in value are _____ to the same number.

FOLDABLES

ORGANIZE IT

Under Lesson 3-4 of your Foldable, describe a situation in which you estimated a decimal sum or difference.



EXAMPLE

1 TEST EXAMPLE **Sid feeds a vitamin-water solution to his guinea pigs. The table shows the amount of solution the guinea pigs drank over a period of four days this week. Which is the closest to the amount of solution the guinea pigs drank?**

Amount of Vitamin-Water Solution Guinea Pigs Drink Each Day	
Day	**Amount (ounces)**
Monday	21.8
Tuesday	19.1
Wednesday	18.9
Thursday	22.0

A 40 ounces **B** 60 ounces **C** 80 ounces **D** 100 ounces

Read the Item

The addends are clustered around ____. Round each decimal to ____.

21.8 → 20
19.1 → 20
18.9 → 20
22.0 → 20

Solve the Item

Multiplication is repeated addition. So, a good estimate is 4×20, or ____. The answer is ____.

WRITE IT

When should you use clustering to estimate?

Check Your Progress **MULTIPLE CHOICE** During the month of February, Jonathon spent $14.78 on gasoline the first week, $15.35 on gasoline during the second week, $15.94 on gasoline during the third week, and $14.07 on gasoline during the fourth week. Which is closest to the total amount Jonathon spent on gasoline during February?

F $35 **G** $50 **H** $60 **J** $100

BUILD YOUR VOCABULARY (page 56)

When you use **front-end estimation**, you ____ the values of the digits in the front place.

EXAMPLE **Use Front-End Estimation**

4 **Estimate 14.8 + 55.9 using front-end estimation.**

Add the ____ digits.

14.8 → 10.0
+ 55.9 → + 50.0
____

Using front-end estimation, 14.8 + 55.9 is about ____.

Check Your Progress Estimate 32.7 + 65.1 using front-end estimation.

HOMEWORK ASSIGNMENT

Page(s):

Exercises: