

**SALE**

**Celtic Bakery Sale**

White Bread	-	2 for	\$1.25
Rye Bread	-	2 for	\$1.35
Onion Rolls	-	6 for	\$1.00
Hamburger Buns	-	6 for	\$0.85
Hot Dog Buns	-	6 for	\$0.69

**Melanie and Kevin are going shopping for their mom at the Celtic Bakery.**

**They were told to buy 15 onion rolls, 10 hamburger buns and 2 loaves of rye bread. How much will it cost them?**

Objective: TSWBAT add and subtract decimals

## Key Concepts

## Properties of Addition

### **Commutative Property of Addition**

Changing the order of the addends does not change the sum.

$$3.6 + 7 = 7 + 3.6$$

### **Associative Property of Addition**

Changing the grouping of the addends does not change the sum.

$$(3.6 + 7) + 3 = 3.6 + (7 + 3)$$

### **Identity Property of Addition**

The sum of 0 and any number is that number.

$$3.6 + 0 = 0 + 3.6 = 3.6$$

**1****EXAMPLE****Finding Decimal Sums**Find the sum  $3.026 + 4.7 + 1.38$ 

$$\begin{array}{r} 3.026 \\ 4.700 \\ 1.380 \\ \hline 9.106 \end{array}$$

Est is 9

1. First estimate and then find  $0.84 + 2.0 + 3.32$ .

Est. is 6

$$\begin{array}{r} 0.84 \\ 2.00 \\ 3.32 \\ \hline 6.16 \end{array}$$

**2****EXAMPLE**

## Using the Properties of Addition

**Mental Math** Use mental math to find the sum  $42 + 13.9 + 58$ .

### What you think

42 and 58 are easy to add. Adding 42 and 58 gives you 100. Adding 100 and 13.9 gives you 113.9. So,  $42 + 13.9 + 58 = 113.9$ .

### Why it works

$$\begin{aligned} 42 + 13.9 + 58 &= 42 + (58 + 13.9) && \leftarrow \text{Commutative Property of Addition} \\ &= (42 + 58) + 13.9 && \leftarrow \text{Associative Property of Addition} \\ &= 100 + 13.9 && \leftarrow \text{Add inside the parentheses.} \\ &= 113.9 && \leftarrow \text{Simplify.} \end{aligned}$$

3

EXAMPLE

## Estimating and Finding a Difference

Real  
World

**Sports** According to the International Basketball Federation, the official distance around a basketball can be no more than 78.0 centimeters. The distance can also be no less than 74.9 centimeters. What is the difference between these distances?

**Estimate**  $78.0 - 74.9 \approx 78 - 75$ , or 3

Subtract. 
$$\begin{array}{r} 78.\overset{7}{\underset{10}{0}} \\ - 74.9 \\ \hline 3.1 \end{array}$$
 ← Rename 8 as 7 and 10 tenths.  
← Subtract 74.9  
← Simplify.

The difference between the distances is 3.1 centimeters.

**4****EXAMPLE****Subtracting Decimals From Whole Numbers**

Find the difference  $50 - 7.86$ .

**Estimate**  $50 - 7.86 \approx 50 - 8$ , or 42

Subtract.

Write a decimal point and two zeros.

$$\begin{array}{r} 50.00 \\ - 7.86 \\ \hline \end{array}$$

Rename 50 as 49 and 10 tenths.

$$\begin{array}{r} 49 \text{ } 10 \\ 50.00 \\ - 7.86 \\ \hline \end{array}$$

Rename 10 tenths as 9 tenths and 10 hundredths.

$$\begin{array}{r} 49 \text{ } 9 \text{ } 10 \\ 50.00 \\ - 7.86 \\ \hline 42.14 \end{array}$$

First estimate and then find each sum.

1.  $0.9 + 6.7$

Estimate  $1 + 7 = 8$

Sum  $7.6$

2.  $3.1 + 9.4$

Estimate  $3 + 9 = 12$

Sum  $12.5$

3.  $4.88 + 8.19$

Estimate  $5 + 8 = 13$

Sum  $13.07$

Use mental math to find each sum.

4.  $14.05 + 9.75$

$(14 + 9) + (.5 + .75)$

$23 + .8$

$23.8$

5.  $6 + (0.22 + 0.78)$

$6 + 1$

$7$

6.  $9.104 + 5.01 + 7.99$

$(9 + 5 + 7) = 21$

$(0.01 + .99) = 1$

$+ 0.104$

$22.104$

First estimate and then find each difference.

7.  $8.5 - 4.2$

Estimate  $9 - 4 = 5$

Difference  $4.3$

8.  $7.2 - 3.05$

Estimate  $7 - 3 = 4$

Difference  $4.15$

9.  $5.07 - 2.8$

Estimate  $5 - 3 = 2$

Difference  $2.27$

10.  $6.347 - 2.986$

\_\_\_\_\_

11.  $14.2 - 9.86$

\_\_\_\_\_

12.  $13.45 - 5.001$

\_\_\_\_\_

13.  $22.7 - 12.06$

⑩ 
$$\begin{array}{r} 512 \\ 6.347 \\ -2.986 \\ \hline 3.361 \end{array}$$

14.  $16.1 - 10.88$

⑬ 
$$\begin{array}{r} 6 \\ 22.70 \\ -12.06 \\ \hline 10.64 \end{array}$$

15.  $1.79 - 0.879$

⑮ 
$$\begin{array}{r} 8 \\ 1.790 \\ -0.879 \\ \hline 0.911 \end{array}$$

Homework: pp. 27-28, 1-36