5th GRADE ENRICHMENT MATH

Unit 2
Adding and Subtracting Decimals

Name _____

Name _____ Date _____

Lesson 7 Reteach

Addition Properties

On Monday, Simone did math homework for 30 minutes and science homework for 20 minutes. On Tuesday, she did science homework for 20 minutes and math homework for 30 minutes. On which day did she spend more time doing homework?

In this situation, the order in which Simone did math and science homework did not change the total amount of time she spent on homework.

This is an example of the *Commutative Property of Addition*. The definition of this property and other properties of addition appear below.

Commutative Property of Addition: The order in which numbers are added does not change the sum.

Associative Property of Addition: The way in which numbers are grouped does not change the sum.

Identity Property of Addition: The sum of any number and 0 equals the number.

Identify the addition property used to rewrite each problem.

1. $21 + 36 + 17 = 36 + 17 + 21$

_____

2. $(5 + 9) + 2 = 5 + (9 + 2)$

_____

3. $46.8 + 0 = 46.8$

_____

4. $77 + (31 + 15) = (77 + 31) + 15$

_____

5. $46 + 13 + 8 = 13 + 8 + 46$

_____

6. $15 + 0 = 15$

_____

Name : _____ Score : _____

Teacher : _____ Date : _____

P.2

6895 + 7034	9690 + 9258	6910 - 4191
9212 - 7291	8074 + 5139	6125 + 9182
2510 - 2097	2901 - 1446	1011 + 2975
8622 - 1670	3310 + 6046	3659 - 2749
7210 - 2633	3773 + 2138	9016 + 3943

Name : _____ Score : _____

Teacher : _____ Date : _____

03

782684 - 662439	846209 + 128514	442465 - 287411
414971 + 886063	805843 - 359113	812875 - 503352
692107 + 820956	874009 - 120866	695289 + 853656
434662 - 274554	761778 + 347559	122388 + 690807
180573 + 564708	564260 - 128523	230826 + 968584

Name _____

Reteaching
2-3

Estimating Sums and Differences

D.4

During one week, Mr. Graham drove a truck to five different towns to make deliveries. Estimate how far he drove in all.

Mr. Graham's Mileage Log

Cities	Mileage
Mansley to Mt. Hazel	243
Mt. Hazel to Perkins	303
Perkins to Alberton	279
Alberton to Fort Maynard	277
Fort Maynard to Mansley	352

To estimate the sum, you can round each number to the nearest hundred miles.

$$\begin{aligned} 243 &\Rightarrow 200 \\ 303 &\Rightarrow 300 \\ 279 &\Rightarrow 300 \\ 277 &\Rightarrow 300 \\ +352 &\Rightarrow +400 \\ & \quad 1{,}500 \text{ mi} \end{aligned}$$

Mr. Graham drove about 1,500 mi.

You can estimate differences in a similar way.

Estimate $7.25 - 4.98$.

You can round each number to the nearest whole number.

$$\begin{aligned} 7.25 &\Rightarrow 7 \\ -4.98 &\Rightarrow -5 \\ & \quad 2 \end{aligned}$$

The difference is about 2.

Estimate each sum or difference.

1. $19.7 - 6.9$

_____

2. $59 + 43 + 95$

_____

3. $582 + 169 + 23$

_____

4. $87.99 - 52.46$

_____

5. Estimation Brigid worked 16.75 h. Kevin worked 12.50 h. About how many more hours did Brigid work than Kevin?

_____

Name _____

Practice
2-3

P.5

Estimating Sums and Differences

Estimate each sum or difference.

1. 5,602 − 2,344 _____

2. 7.4 + 3.1 + 9.8 _____

3. 2,314 + 671 _____

4. 54.23 − 2.39 _____

5. Wesley estimated 5.82 − 4.21 to be about 2. Is this an overestimate or an underestimate? Explain.

_____

_____

6. Estimate the total precipitation in inches and the total number of days with precipitation for Asheville and Wichita.

_____

Average Yearly Precipitation of U.S. Cities

City	Inches	Days
Asheville, North Carolina	47.71	124
Wichita, Kansas	28.61	85

7. Which numbers should you add to estimate the answer to this problem: 87,087 + 98,000?

A 88,000 + 98,000

B 85,000 + 95,000

C 87,000 + 98,000

D 80,000 + 90,000

8. **Estimation** Estimate the total weight of two boxes that weigh 9.4 lb and 62.6 lb using rounding and compatible numbers. Which estimate is closer to the actual total weight? Why?

_____

_____

_____

Name _____

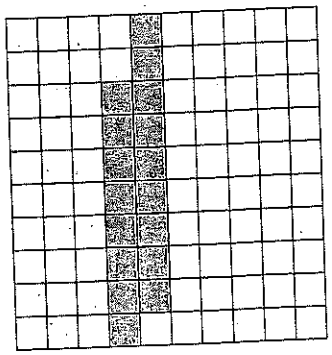
Reteaching
2-4

Modeling Addition and Subtraction of Decimals

D.6

Adding decimals using a hundredths grid:

Add 0.32 + 0.17.



Step 1: Shade 32 squares to show 0.32.

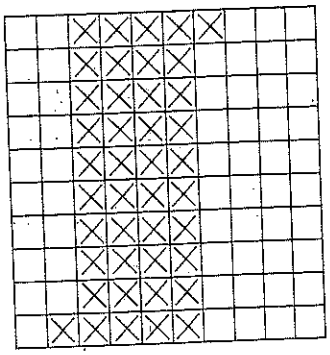
Step 2: Use a different color. Shade 17 squares to show 0.17.

Step 3: Count all the squares that are shaded. How many hundredths are shaded in all? Write the decimal for the total shaded squares: 0.49.

So, 0.32 + 0.17 = 0.49.

Subtracting decimals using a hundredths grid:

Subtract 0.61 − 0.42.



Step 1: Shade 61 squares to show 0.61.

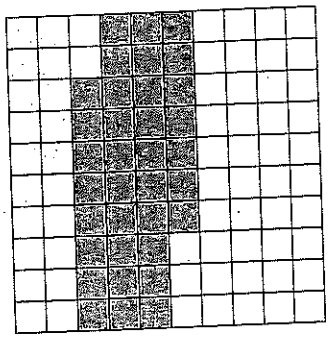
Step 2: Cross out 42 squares to show 0.42.

Step 3: Count the squares that are shaded but not crossed out. Write the decimal: 0.19.

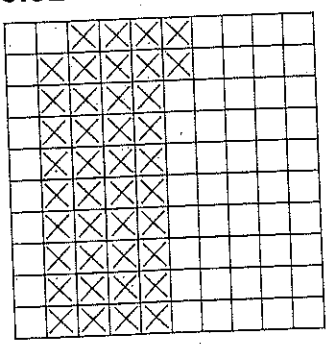
So, 0.61 − 0.42 = 0.19.

Add or subtract. You may use hundredths grids to help.

1. 0.22 + 0.35 = _____



2. 0.52 − 0.41 = _____

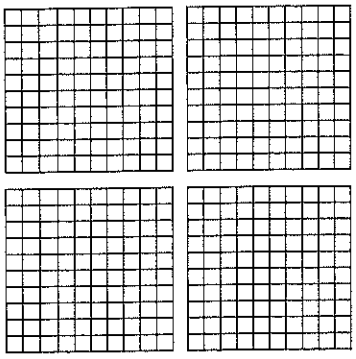


Name

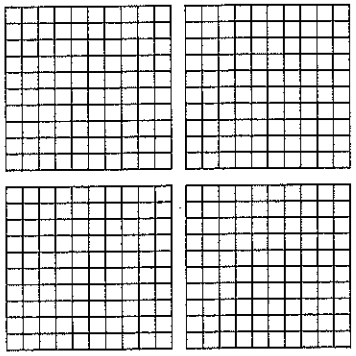
Practice It

Add. Shade the decimal models.

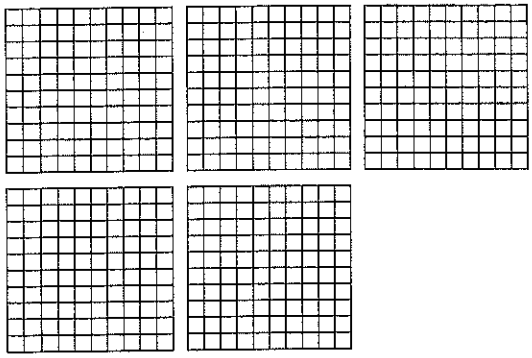
3. 2.46 + 1.13 = _____



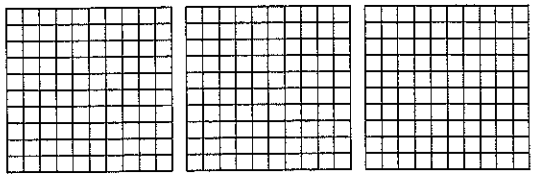
4. 2.05 + 1.87 = _____



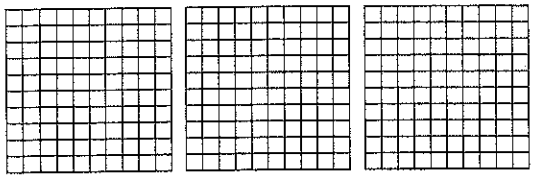
5. 2.91 + 1.8 = _____



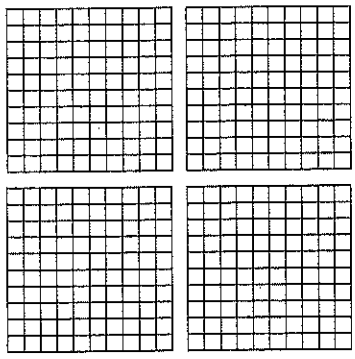
6. 1.34 + 1.15 = _____



7. 1.74 + 0.36 = _____



8. 2.05 + 1.12 = _____

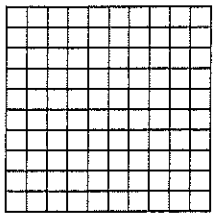


Name

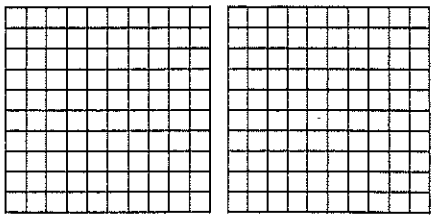
Practice It

Subtract. Use decimal models.

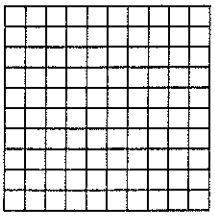
2. 0.93 − 0.7 = _____



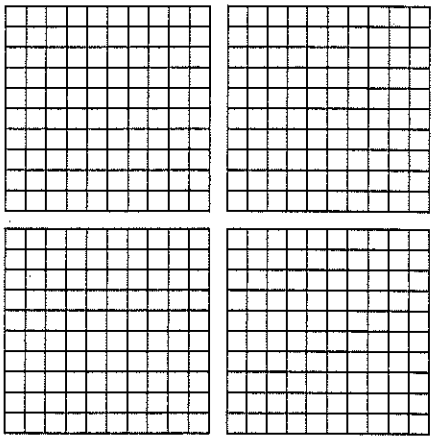
3. 1.53 − 1.41 = _____



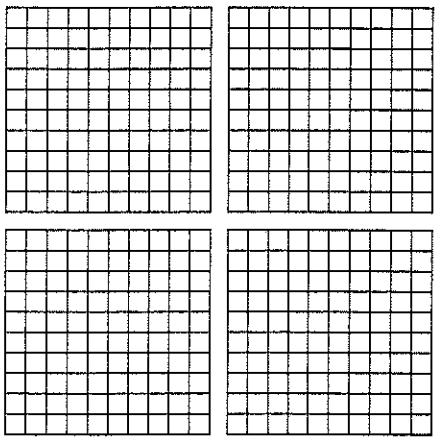
4. 0.9 − 0.3 = _____



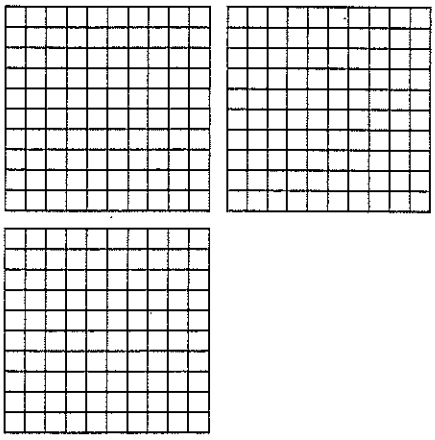
5. 3.94 − 0.4 = _____



6. 3.55 − 0.1 = _____



7. 2.4 − 0.9 = _____



Name _____

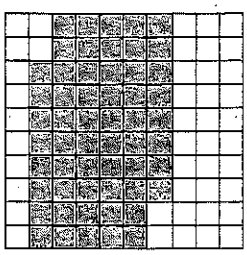
Practice
2-4

p.9

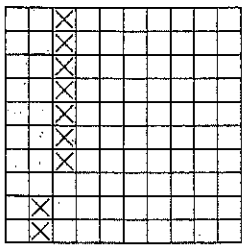
Modeling Addition and Subtraction of Decimals

Add or subtract. Use hundredths grids if necessary.

1. 0.12 + 0.56 = _____



2. 0.27 − 0.09 = _____



3. 0.86 + 0.54 = _____

4. 1.27 + 0.75 = _____

5. 0.93 − 0.25 = _____

6. 1.07 − 0.61 = _____

7. 1.13 − 1.02 = _____

8. 0.28 + 1.96 = _____

9. Is the difference of 1.45 − 0.12 less than or greater than 1? _____

10. A bottle of nail polish holds 0.8 ounce. A bottle of perfume holds 0.45 ounce. How many more ounces does a bottle of nail polish hold? _____

11. Add: 1.18 + 1.86

A 2.04 **B** 2.94 **C** 3.04 **D** 3.14

12. Writing to Explain Explain how to use hundredths grids to subtract 1.65 − 0.98.

_____

_____

_____

Name _____

Reteaching
2-6

Adding Decimals

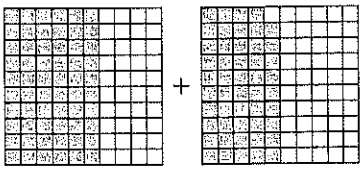
p. 10

In February, Chantell ran a 5K race in 0.6 hour. She ran another 5K race in May in 0.49 hour. What was her combined time for the two races?

Step 1: Write the numbers, lining up the decimal points. Include the zeros to show place value.

$$\begin{array}{r} 0.60 \\ +\ 0.49 \\ \hline \end{array}$$

You can use decimal squares to represent this addition problem.

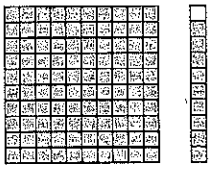


Step 2: Add the hundredths.

$$\begin{array}{r} 0.60 \\ +\ 0.49 \\ \hline 9 \end{array}$$

Step 3: Add the tenths. Remember to write the decimal point in your answer.

$$\begin{array}{r} {\scriptstyle 1} \\ 0.60 \\ +\ 0.49 \\ \hline 1.09 \end{array}$$



Chantell's combined time for the two races was 1.09 hours.

Add.

1. 2.97 + 0.35 = _____

2. 13.88 + 7.694 = _____

3. 39.488 + 26.7 = _____

4. 88.8 + 4.277 + 78.95 = _____

5. Is 16.7 a reasonable sum for 7.5 + 9.2? Explain.

_____

_____

6. How much combined snowfall was there in Milwaukee and Oklahoma City?

_____

City	Snowfall (inches) in 2000
Milwaukee, WI	87.8
Baltimore, MD	27.2
Oklahoma City, OK	17.3

Name _____

Practice
2-6

p. 11

Adding Decimals

Add.

1. 58.0 + 3.6

2. 40.5 + 22.3

3. 34.587 + 21.098

4. 43.1000 + 8.4388

5. 16.036 + 7.009 = _____

6. 92.30 + 0.32 = _____

7. Reilly adds 45.3 and 3.21. Should his sum be greater than or less than 48? Tell how you know.

_____

_____

_____

In science class, students weighed different amounts of tin. Carmen weighed 4.361 g, Kim weighed 2.704 g, Simon weighed 5.295 g, and Angelica weighed 8.537 g.

8. How many grams of tin did Carmen and Angelica have combined?

_____

9. How many grams of tin did Kim and Simon have combined?

_____

10. In December the snowfall was 0.03 in. and in January it was 2.1 in. Which was the total snowfall?

A 3.2 in. **B** 2.40 in. **C** 2.13 in. **D** 0.03 in.

11. **Writing to Explain** Explain why it is important to line up decimal numbers by their place value when you add or subtract them.

_____

_____

_____

Lesson 9 Problem Set 5•1

p. 12

Name _____ Date _____

1. Solve, and then write the sum in standard form. Use a place value chart if necessary.

   a. 1 tenth + 2 tenths = _____ tenths = _____

   b. 14 tenths + 9 tenths = _____ tenths = _____ one(s) _____ tenth(s) = _____

   c. 1 hundredth + 2 hundredths = _____ hundredths = _____

   d. 27 hundredths + 5 hundredths = _____ hundredths = _____ tenths _____ hundredths = _____

   e. 1 thousandth + 2 thousandths = _____ thousandths = _____

   f. 35 thousandths + 8 thousandths = _____ thousandths = _____ hundredths _____ thousandths = _____

   g. 6 tenths + 3 thousandths = _____ thousandths = _____

   h. 7 ones 2 tenths + 4 tenths = _____ tenths = _____

   i. 2 thousandths + 9 ones 5 thousandths = _____ thousandths = _____

2. Solve using the standard algorithm.

a. 0.3 + 0.82 = _____	b. 1.03 + 0.08 = _____
c. 7.3 + 2.8 = _____	d. 57.03 + 2.08 = _____

e. 62.573 + 4.328 = _____	f. 85.703 + 12.197 = _____

3. Van Cortlandt Park's walking trail is 1.02 km longer than Marine Park's. Central Park's walking trail is 0.242 km longer than Van Cortlandt's.

   a. Fill in the missing information in the chart below.

New York City Walking Trails	
Central Park	_____ km
Marine Park	1.28 km
Van Cortlandt Park	_____ km

   b. If a tourist walked all 3 trails in a day, how many kilometers would he or she have walked?

4. Meyer has 0.64 GB of space remaining on his iPod. He wants to download a pedometer app (0.24 GB), a photo app (0.403 GB), and a math app (0.3 GB). Which combinations of apps can he download? Explain your thinking.

Lesson 9 Homework 5•1

p. 14

Name _____ Date _____

1. Solve.

   a. 3 tenths + 4 tenths = _____ tenths

   b. 12 tenths + 9 tenths = _____ tenths = _____ one(s) _____ tenth(s)

   c. 3 hundredths + 4 hundredths = _____ hundredths

   d. 27 hundredths + 7 hundredths = _____ hundredths = _____ tenths _____ hundredths

   e. 4 thousandths + 3 thousandths = _____ thousandths

   f. 39 thousandths + 5 thousandths = ____ thousandths = ____ hundredths ____ thousandths

   g. 5 tenths + 7 thousandths = _____ thousandths

   h. 4 ones 4 tenths + 4 tenths = _____ tenths

   i. 8 thousandths + 6 ones 8 thousandths = _____ thousandths

2. Solve using the standard algorithm.

a. 0.4 + 0.7 = _____	b. 2.04 + 0.07 = _____
c. 6.4 + 3.7 = _____	d. 56.04 + 3.07 = _____

p.15

e. 72.564 + 5.137 = _____	f. 75.604 + 22.296 = _____

3. Walkway Over the Hudson, a bridge that crosses the Hudson River in Poughkeepsie, is 2.063 kilometers long. Anping Bridge, which was built in China 850 years ago, is 2.07 kilometers long.

   a. What is the total span of both bridges? Show your thinking.

   b. Leah likes to walk her dog on the Walkway Over the Hudson. If she walks across and back, how far will she and her dog walk?

4. For his parents' anniversary, Danny spends $5.87 on a photo. He also buys a balloon for $2.49 and a box of strawberries for $4.50. How much money does he spend all together?

Name _____

Reteaching
2-7

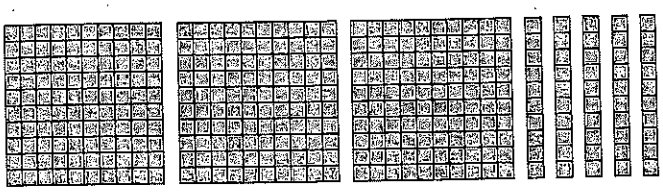
Subtracting Decimals

Mr. Montoya bought 3.5 lb of ground beef. He used 2.38 lb to make hamburgers. How much ground beef does he have left?

p. 16

Step 1: Write the numbers, lining up the decimal points. Include the zeros to show place value.

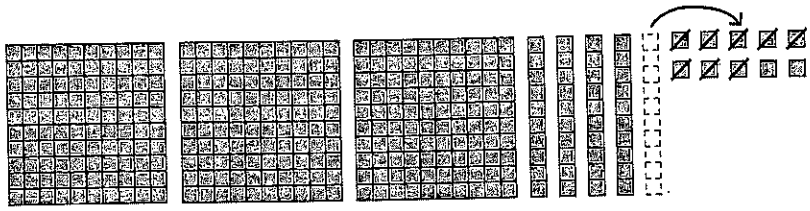
$$\begin{array}{r} 3.50 \\ -2.38 \\ \hline \end{array}$$



You can use decimal squares to represent this subtraction problem.

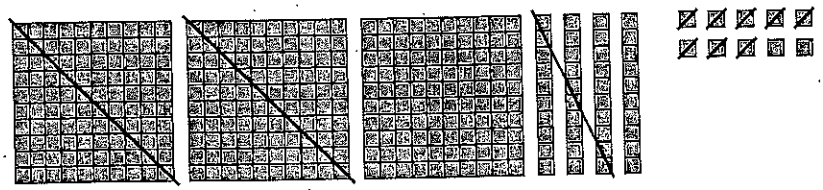
Step 2: Subtract the hundredths. Regroup if you need to.

$$\begin{array}{r} {}^{4}\,{}^{10} \\ 3.\cancel{5}\cancel{0} \\ -2.38 \\ \hline 2 \end{array}$$



Step 3: Subtract the tenths and the ones. Remember to write the decimal point in your answer.

$$\begin{array}{r} {}^{4}\,{}^{10} \\ 3.\cancel{5}\cancel{0} \\ -2.38 \\ \hline 1.12 \end{array}$$



Mr. Montoya has 1.12 lb of ground beef left over.

Subtract.

1. $\begin{array}{r} 82.7 \\ -5.59 \\ \hline \end{array}$ _____

2. $\begin{array}{r} 43.3 \\ -12.82 \\ \hline \end{array}$ _____

3. $\begin{array}{r} 7.28 \\ -4.928 \\ \hline \end{array}$ _____

Name _____

Practice
2-7

Subtracting Decimals

Subtract.

1. 92.1 − 32.6

2. 52.7 − 36.9

3. 85.76 − 12.986

4. 32.7 − 2.328

5. 8.7 − 0.3 = _____

6. 23.3 − 1.32 = _____

7. Kelly subtracted 2.3 from 20 and got 17.7. Explain why this answer is reasonable.

_____

_____

At a local swim meet, the second-place swimmer of the 100-m freestyle had a time of 9.33 sec. The first-place swimmer's time was 1.32 sec faster than the second-place swimmer. The third-place time was 13.65 sec.

8. What was the time for the first-place swimmer? _____

9. What was the difference in time between the second- and third-place swimmers? _____

10. Miami's annual precipitation in 2000 was 61.05 in. Albany's was 46.92 in. How much greater was Miami's precipitation than Albany's?

A 107.97 in. **B** 54.31 in. **C** 14.93 in. **D** 14.13 in.

11. Writing to Explain Explain how to subtract 7.6 from 20.39.

_____

_____

_____

_____

_____

Lesson 10 Problem Set 5•1

p. 18

Name _____ Date _____

1. Subtract, writing the difference in standard form. You may use a place value chart to solve.

   a. 5 tenths – 2 tenths = _____ tenths = _____

   b. 5 ones 9 thousandths – 2 ones = _____ ones _____ thousandths = _____

   c. 7 hundreds 8 hundredths – 4 hundredths = _____ hundreds _____ hundredths = _____

   d. 37 thousandths – 16 thousandths = _____ thousandths = _____

2. Solve using the standard algorithm.

a. 1.4 – 0.7 = _____	b. 91.49 – 0.7 = _____	c. 191.49 – 10.72 = _____
d. 7.148 – 0.07 = _____	e. 60.91 – 2.856 = _____	f. 361.31 – 2.841 = _____

p.19

3. Solve.

a. 10 tens – 1 ten 1 tenth	b. 3 – 22 tenths	c. 37 tenths – 1 one 2 tenths
d. 8 ones 9 hundredths – 3.4	e. 5.622 – 3 hundredths	f. 2 ones 4 tenths – 0.59

4. Mrs. Fan wrote *5 tenths minus 3 hundredths* on the board. Michael said the answer is 2 tenths because 5 minus 3 is 2. Is he correct? Explain.

5. A pen costs $2.09. It costs $0.45 less than a marker. Ken paid for one pen and one marker with a five-dollar bill. Use a tape diagram with calculations to determine his change.

Lesson 10 Homework 5•1

p. 20

Name _____ Date _____

1. Subtract. You may use a place value chart.

   a. 9 tenths – 3 tenths = _____ tenths

   b. 9 ones 2 thousandths – 3 ones = _____ ones _____ thousandths

   c. 4 hundreds 6 hundredths – 3 hundredths = _____ hundreds _____ hundredths

   d. 56 thousandths – 23 thousandths = _____ thousandths = _____ hundredths _____ thousandths

2. Solve using the standard algorithm.

a. 1.8 – 0.9 = _____	b. 41.84 – 0.9 = _____	c. 341.84 – 21.92 = _____
d. 5.182 – 0.09 = _____	e. 50.416 – 4.25 = _____	f. 741 – 3.91 = _____

p. 21

3. Solve.

a. 30 tens – 3 tens 3 tenths	b. 5 – 16 tenths	c. 24 tenths – 1 one 3 tenths
d. 6 ones 7 hundredths – 2.3	e. 8.246 – 5 hundredths	f. 5 ones 3 tenths – 0.53

4. Mr. House wrote *8 tenths minus 5 hundredths* on the board. Maggie said the answer is 3 hundredths because 8 minus 5 is 3. Is she correct? Explain.

5. A clipboard costs $2.23. It costs $0.58 more than a notebook. Lisa bought two clipboards and one notebook. She paid with a ten-dollar bill. How much change does Lisa get? Use a tape diagram to show your thinking.

Name _____

p. 22

Solve.

1

	tens	ones	.	tenths	hundredths
		0	.	5	6
+		0	.	3	2

2

	tens	ones	.	tenths	hundredths
		0	.	9	0
−		0	.	1	1

0.56 + 0.32 $\quad$ $\begin{array}{r} 0.56 \\ +\ 0.32 \\ \hline \end{array}$

0.9 − 0.11 $\quad$ $\begin{array}{r} 0.90 \\ -\ 0.11 \\ \hline \end{array}$

---

3 5.07 + 3.7 $\quad$ $\begin{array}{r} 5.07 \\ +\ 3.7 \\ \hline \end{array}$

4 0.8 + 0.22 $\quad$ $\begin{array}{r} 0.80 \\ +\ 0.22 \\ \hline \end{array}$

5 5.9 − 5.1 $\quad$ $\begin{array}{r} 5.9 \\ -\ 5.1 \\ \hline \end{array}$

6 1.77 − 0.65 $\quad$ $\begin{array}{r} 1.77 \\ -\ 0.65 \\ \hline \end{array}$

---

7 0.78 + 0.27 $\quad$ $\begin{array}{r} 0.78 \\ +\ 0.27 \\ \hline \end{array}$

8 0.41 + 0.87 $\quad$ $\begin{array}{r} 0.41 \\ +\ 0.87 \\ \hline \end{array}$

9 0.28 − 0.14 $\quad$ $\begin{array}{r} 0.28 \\ -\ 0.14 \\ \hline \end{array}$

10 0.68 − 0.09 $\quad$ $\begin{array}{r} 0.68 \\ -\ 0.09 \\ \hline \end{array}$

---

11 1.98 + 1.9 $\quad$ $\begin{array}{r} 1.98 \\ +\ 1.90 \\ \hline \end{array}$

12 3.52 − 0.61 $\quad$ $\begin{array}{r} 3.52 \\ -\ 0.61 \\ \hline \end{array}$

13 2.98 − 0.69 $\quad$ $\begin{array}{r} 2.98 \\ -\ 0.69 \\ \hline \end{array}$

14 9.38 − 0.93 $\quad$ $\begin{array}{r} 9.38 \\ -\ 0.93 \\ \hline \end{array}$

☆ **Tell how you can use a place value chart to add decimals.**

ame _____

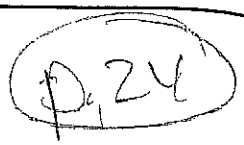
p. 23

Solve.

1. 1.7 + 0.38 = _____
2. 2.6 – 0.72 = _____
3. 3.65 + 1.52 = _____
4. 40.7 – 0.38 = _____
5. 15.06 + 10.5 = _____
6. 5.06 – 1.9 = _____
7. 7.8 – 4.08 = _____
8. 20.6 + 20.01 = _____
9. 4.33 – 0.43 = _____
10. 17.3 – 3.4 = _____
11. 6.02 + 0.89 = _____
12. 6.33 + 0.63 = _____
13. 9.8 – 2.12 = _____
14. 9.08 + 3.62 = _____
15. 4.03 – 3.37 = _____
16. 1.56 + 1.64 = _____
17. 5.36 + 1.44 = _____
18. 10.1 + 1.01 = _____
19. 7.6 – 0.93 = _____
20. 2.85 – 0.81 = _____
21. 4.93 + 4.62 = _____
22. 12.8 + 0.02 = _____
23. 3.8 – 3.42 = _____
24. 508.1 – 37.61 = _____

☆ **Tell how you can use addition to check your subtraction.**

Name _____



Solve.

1. What is the sum of 7.8 and 7.02?

2. What is the difference between 13.04 and 12.06?

3. Sara bought a loaf of bread for $3.49 and a gallon of milk for $4.50. How much more did the milk cost?

4. Jamal put $0.75 in the parking meter. An hour later, he added another $0.50. How much did he put in the meter in all?

5. The salmon weighs 8.5 pounds. The mackerel weighs 6.62 pounds. How much do the two fish weigh in all?

6. Keith jumps 7.25 feet on the standing long jump. Tanya jumps 6.62 feet. How much farther can Keith jump?

Circle the letter for the correct answer.

7. The race is 10 kilometers. Tom has run 7.43 kilometers so far. How much farther does he need to run in order to finish the race?

   a) 2.57 km

   b) 2.67 km

   c) 3.57 km

   d) 3.67 km

8. The first song in the dance routine is 1.75 minutes long. The second song is 2.5 minutes. What is the combined time of both songs?

   a) 2.0 minutes

   b) 3.8 minutes

   c) 3.25 minutes

   d) 4.25 minutes

3. Solve by rewriting the number sentence in fraction form. After solving, rewrite the complete number sentence in decimal form.

a. 6.4 + 5.3	b. 6.62 + 2.98
c. 2.1 + 0.94	d. 2.1 + 5.94
e. 5.7 + 4.92	f. 5.68 + 4.9
g. 4.8 + 3.27	h. 17.6 + 3.59

3. Solve by rewriting the number sentence in fraction form. After solving, rewrite the complete number sentence in decimal form.

a. $2.1 + 0.87 = 2\frac{1}{10} + \frac{87}{100}$	b. $7.2 + 2.67$
c. $7.3 + 1.8$	d. $7.3 + 1.86$
e. $6.07 + 3.93$	f. $6.87 + 3.9$
g. $8.6 + 4.67$	h. $18.62 + 14.7$

Name _____ Date _____

1. Solve. Convert tenths to hundredths before finding the sum. Rewrite the complete number sentence in decimal form. Problems 1(a) and 1(b) are partially completed for you.

a. $5\frac{2}{10}+\frac{7}{100}=5\frac{20}{100}+\frac{7}{100}=$ _____ $5.2 + 0.07 =$ _____	b. $5\frac{2}{10}+3\frac{7}{100}=8\frac{20}{100}+\frac{7}{100}=$ _____
c. $6\frac{5}{10}+\frac{1}{100}$	d. $6\frac{5}{\mathbf{10}}+7\frac{1}{100}$

2. Solve. Then, rewrite the complete number sentence in decimal form.

a. $4\frac{9}{10}+5\frac{10}{100}$	b. $8\frac{7}{10}+2\frac{65}{100}$
c. $7\frac{3}{10}+6\frac{87}{100}$	d. $5\frac{48}{100}+7\frac{8}{10}$