

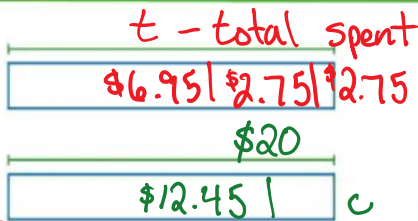
Lesson 2-7

Monday, September 30, 2019 1:10 PM

Name MB 95 

Solve & Share

At a baseball game, Sheena bought a sandwich for \$6.95 and two pretzels for \$2.75 each. She paid with a \$20 bill. How much change did she receive? Solve this problem any way you chose. Use bar diagrams to help.



$$\begin{array}{r} 6.95 \\ 2.75 \\ +2.75 \\ \hline \$12.45 \end{array}$$

$$\begin{array}{r} 20.00 \\ -12.45 \\ \hline \$7.55 \end{array}$$

Sheena has \$7.55 in change.

Math Practices and Problem Solving

Lesson 2-7 Model with Math

I can ...

use the math I know to solve problems.

Mathematical Practices MP.4 Also, MP.1, MP.2, MP.3
Content Standard 5.NBT.B.7

Thinking Habits

Be a good thinker!
These questions can help you.

- How can I use math I know to help solve the problem?
- How can I use pictures, objects, or an equation to represent the problem?
- How can I use numbers, words, and symbols to solve the problem?



Look Back! © MP.4 Model with Math What other way can you represent this problem situation?

In equations

$$6.95 + 2.75 + 2.75 = t$$

$$20 - 12.45 = c$$

$$20 - (6.95 + 2.75 + 2.75) = c$$

How Can You Represent a Problem with Bar Diagrams?

Monica wants to buy all of the art supplies shown on this sign. She has a coupon for \$5.50 off the cost of her purchases. What will Monica's total cost be after the discount?

Easel	\$59.95
Set of paints	\$24.95
Smock	\$9.75
Canvas boards	\$13.50

Model with math means you apply math you have learned to solve problems.

What do I need to do to solve the problem?

I need to find Monica's cost for the art supplies.



Here's my thinking...

How can I model with math?

I can

- use the math I know to help solve the problem.
- find and answer any hidden questions.
- use bar diagrams and equations to represent and solve this problem.

I will use bar diagrams to represent this situation.

? total cost			
\$59.95	\$24.95	\$9.75	\$13.50

$$\$59.95 + \$24.95 + \$9.75 + \$13.50 = \$108.15$$

The total cost before the discount is \$108.15.

\$108.15 total before discount	
\$5.50	? total after discount

$$\$108.15 - \$5.50 = \$102.65$$

Monica's cost after the discount is \$102.65.

Convince Me! **MP.4 Model with Math** How could you decide if your answer makes sense?

$$\begin{array}{r}
 59.95 \rightarrow 60 \\
 24.95 \rightarrow 25 \\
 9.75 \rightarrow 10 \\
 13.50 \rightarrow 15 \\
 \hline
 110
 \end{array}$$

Complete an estimate:

$$\begin{array}{r}
 110 \rightarrow 110 \\
 - 550 \rightarrow -6 \\
 \hline
 104
 \end{array}$$

The answer \$102.65 is reasonable.

Name _____

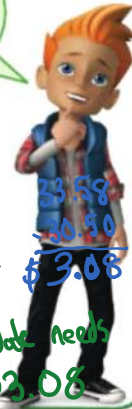


★ Guided Practice ★

● MP.4 Model with Math

Nate has \$30.50. He wants to buy his dog a sweater that costs \$15, a toy that costs \$3.79, and a leash that costs \$14.79. How much more money does he need?

When you model with math you use the math you already know to solve new problems!



1. What do you need to find before you can solve the problem?

The cost of the sweater, toy, and leash.

2. Draw bar diagrams to represent the problem and then solve the problem. Show the equations you used to solve the problem.

$$\begin{array}{r}
 15.00 \\
 + 3.79 \\
 + 14.79 \\
 \hline
 33.58
 \end{array}$$

t - total cost

\$15	\$3.79	\$14.79
------	--------	---------

\$33.58

\$30.50	m
---------	---

Nate needs \$3.08

$15 + 3.79 + 14.79 = t$

$33.58 - 30.50 = m$

Complete 3, 4, & 5

★ Independent Practice ★

● MP.4 Model with Math

Luz Maria has \$15. She buys a ticket to a movie and a smoothie. How much money does she have left?

Ticket	\$9.50
Popcorn	\$4.50
Smoothie	\$2.85

3. What do you need to find before you can solve the problem?

How much money Luz Maria spends.

4. Draw two bar diagrams to represent the problem.

t - total spent

\$9.50	\$2.85
--------	--------

\$15	c
\$12.35	

$$\begin{array}{r}
 9.50 \\
 + 2.85 \\
 \hline
 12.35
 \end{array}$$

5. What is the solution to the problem? Show the equations you used to solve the problem.

$$\begin{aligned}
 9.50 + 2.85 &= t \\
 15 - 12.35 &= c
 \end{aligned}$$

Luz Maria has \$2.65 left

or

$$\begin{aligned}
 9.50 + 2.85 &= 12.35 \\
 15 - 12.35 &= 2.65
 \end{aligned}$$

Math Practices and Problem Solving

© Common Core Performance Assessment

School Trip

Audrey is saving for a school trip. She needs \$180 for the bus tickets, \$215 for the hotel, and \$80 for meals. The table shows how much money she and her sister, Kelsey, have saved over a 4-month period. How much more money does Audrey need for the trip?

Monthly Savings		
Month	Audrey's Savings	Kelsey's Savings
September	\$68	\$28
October	\$31.50	\$42.50
November	\$158	\$90.25
December	\$74.75	\$89

6. **MP.1 Make Sense and Persevere** What are you trying to find?

7. **MP.3 Construct Arguments** Should you multiply Audrey's savings for September by 4 since there are 4 months? Explain.

8. **MP.4 Model with Math** Draw bar diagrams to represent the total cost of Audrey's trip and the total she has saved. Then find the total cost and total savings.

9. **MP.4 Model with Math** Write and solve an equation to determine how much more money Audrey needs for the trip.

You can **model with math** by using what you know about adding and subtracting whole numbers to add and subtract decimals.

