# Lesson 1-1 Practice: Problem Solving

**Solve.**

**1** **COLLECTIONS** Mario had 190 sports cards in his collection. At a card show, he sold 45 cards. How many cards are in his collection now? _____

**2** **AGES** George Washington Carver was born in 1864. Albert Einstein was born in 1879. How many years older was George Washington Carver than Albert Einstein? _____

**3** **RESTAURANTS** John ordered a turkey sandwich and a large lemonade from the menu shown at the right. How much did his meal cost? _____

Lunch Menu

Sandwiches

Chicken Salad  $3.75
Turkey Sandwich  $4.00
Club Sandwich  $4.25

Drinks
                Sm      Lg
Soda          $1.00  $1.75
Lemonade  $1.25  $2.00
Milk          $1.50  $2.50

**4** **CATS** Todd has 2 cats named Cleo and Duncan. Cleo weighs 14 pounds, and Duncan weighs 11 pounds. What is the total weight of the 2 cats? _____

**5** **RECYCLING** The members of the band collected 28 pounds of aluminum cans on Saturday. They collected 17 pounds of aluminum cans on Sunday. How many pounds of aluminum cans did they collect in all? _____

**6** **CHILI** Leon is making vegetarian chili using the recipe shown at the right. He has a 32-ounce bag of pinto beans. How many ounces of pinto beans will be left after he makes the chili?

Vegetarian Chili

1 tbsp oil
1 chopped onion
1 can tomatoes
16 ounces kidney beans
16 ounces pinto beans

_____

**7** **AGES** Jenny is 11 years old today. Her mother is 39 years old. How much older is Jenny's mother than Jenny? _____

**Lesson 1-2**

# Practice: Problem Solving

**Solve.**

**1** **PLANTING**   Carolina planted 7 rows of tomato plants. Each row has 4 tomato plants. How many tomato plants are there in all? _____

**2** **SAVINGS**   Jorge saved $55 for a baseball glove. He saved $5 each month. How many months did it take Jorge to save the money? _____

**3** **PIZZA**   Mr. Benson ordered 6 medium cheese pizzas for the football team. What was the total cost for the pizzas? _____

> **Pizza Palace**
>
> **Cheese Pizza**
>
> Small      $8.00
> Medium   $10.00
> Large      $12.00
>
> **Drinks**
> 　　　　　Sm　　Lg
> Soda        $1.00  $1.75
> Lemonade $1.25  $2.00

**4** **PICTURES**   Mason arranged these pictures on his bedroom wall. Write a multiplication sentence to express how many pictures Mason has. _____
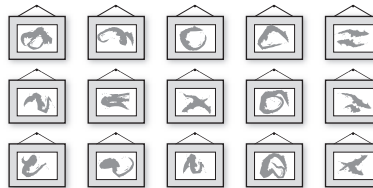
**5** **MILK**   Paco drinks 1 container of milk each day. How many ounces of milk does he drink in 5 days? _____

**Milk 8oz.**

**6** **SPREADSHEETS**   A spreadsheet has 75 cells in all. It has 25 rows. How many columns are in the spreadsheet? _____

**7** **MOVIES**   A movie theater has 40 rows of seats. Each row has 20 seats. How many seats are in the movie theater? _____

**8** **WALKING**   Marisa walks 3 miles each day. How many miles does she walk in 15 days? _____

**9** **COMPUTER LAB**   A computer lab has 36 computers. There are 3 computers on each table. How many tables are used to hold the computers in the lab? _____

*Math Triumphs*

**Lesson 1-3**

# Practice: Problem Solving

**Solve. Write the equation used to solve each problem.**

**1   WALKING**   Jamal walked 2 miles on Monday and 5 miles on Tuesday. Vito walked 3 miles on Monday and 4 miles on Tuesday. They both walked 4 miles on Wednesday. Did Jamal and Vito walk the same number of miles?

_____

**2   SHOPPING**   Brittany bought a jar of peanut butter and a box of crackers. Sharon bought a box of cereal and a pint of milk. They both bought a loaf of bread. Did Brittany and Sharon spend equal amounts of money?

Sales this Weekend
Peanut butter $2   $1.25 Bread
Milk (1 pint) $0.75   $3 All Grain Cereal   $1.75 Crackers

_____

**3   PETS**   Benjamin's dog weighs 15 pounds. His cat weighs 8 pounds. Emily's dog weighs 12 pounds. Her cat weighs 10 pounds. They each buy a rabbit that weighs 5 pounds. Is the total weight of Benjamin's pets equal to the total weight of Emily's pets?

_____

**4   PICTURES**   Lydia put 1 row of 8 pictures on each of 2 of her bedroom walls. Cecelia put 2 rows of 4 pictures on each of 2 of her bedroom walls. Did Lydia and Cecelia put the same number of pictures on their bedroom walls?

_____

**5   EXERCISE**   The bar graph shows the number of miles Sada and Fina ran on each of 3 days. Did Sada and Fina run the same total distance during the 3 days?

Miles Run in 3 Days

Number of Miles
3
2
1
0
Monday   Tuesday   Wednesday

■ Sada   ■ Fina

_____
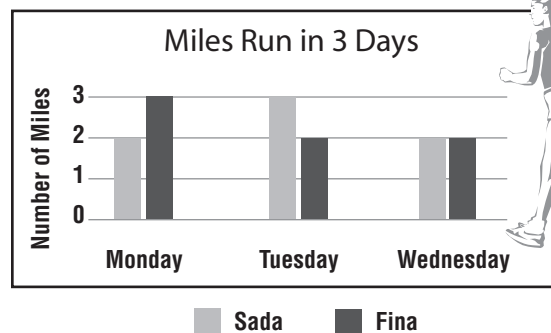
**Lesson 1-4** **Practice: Problem Solving**

**Solve.**

**1** **TRAVEL** Mr. Davis is driving 350 miles to visit his friend. He drives 150 miles the first day of the trip. How many miles does Mr. Davis still need to drive? _____

**2** **TREES** Dion planted 20 fruit trees. He planted 8 apple trees. The rest of the trees were cherry trees. How many cherry trees did he plant? _____

**3** **COOKIES** Melody baked 84 cookies for a bake sale. She divided the cookies equally into 21 bags. How many cookies did Melody put into each bag? _____

**4** **TRAILS** Ruben hiked 2 trails over the weekend. He hiked a total of 22 miles. First Ruben hiked the Canyon Peak trail. What is the name of the second trail he hiked? _____

| Hiking Trails | |
| --- | --- |
| **Name** | **Length (miles)** |
| Canyon Peak | 14 |
| Winding Way | 9 |
| Lone Wolf | 8 |
| Blue Spring | 11 |

**5** **EARNINGS** Ivan worked 16 hours last week and earned $128. How much money did Ivan earn in one hour? _____

**6** **COLLECTIONS** Ally has 74 seashells in her collection. She gives 12 seashells to her sister. How many seashells are in her collection now? _____

**7** **THEATER** Sandra bought 8 tickets to the play *Now is the Time*. All the tickets were in the same section. If Sandra spent $96 on tickets, in what section did she buy the tickets? _____

| Ticket Prices for *Now is the Time* | |
| --- | --- |
| **Section** | **Price** |
| Lower Level | $15 |
| Mezzanine | $14 |
| Balcony | $12 |

**8** **TENNIS** Jerry bought 6 cans of tennis balls. There are 3 tennis balls in each can. How many tennis balls did Jerry buy? _____

**Lesson
2-1** **Practice: Problem Solving**

**Solve.**

**1** **SAVINGS** Mandy saved $15 in January and $22 in February. Dasan saved $22 in January. How much money does Dasan need to save in February to have the same amount of money as Mandy?

_____

**2** **NUTRITION** Darla ate a whole-wheat bagel and $\frac{1}{2}$ cup of broccoli with lunch. Simon ate $\frac{1}{2}$ cup of raspberries and a whole-wheat pita with lunch. The chart below shows the amount of fiber in each food item. Who ate more grams of fiber?

_____

_____

_____

_____

| Fiber Grams in Different Foods | |
| --- | --- |
| **Food** | **Fiber (grams)** |
| Whole-wheat pita | 4 |
| Whole-wheat bagel | 4 |
| Broccoli ($\frac{1}{2}$ cup) | 3 |
| Raspberries ($\frac{1}{2}$ cup) | 3 |

**3** **FITNESS** Nari walked 5 miles each day for 3 days. If Lawrence walks 3 miles each day, how many days will it take for Lawrence to walk the same number of miles as Nari?

_____

**4** **INTERIOR DESIGN** Sleepy Time Hotel and Overnight Stay Inn are putting new curtains in each room. Each room has 1 window. Sleepy Time Hotel has 10 floors and each floor has 12 rooms. Overnight Stay Hotel has 12 floors and each floor has 10 rooms. Which hotel put up the greater number of curtains?

_____

_____

_____

_____

**5** **FLOORING** Mr. Garcia and Mrs. Lansing are laying tiles on their porches in the patterns shown below. Who is using the greater number of tiles?

_____

_____

_____

_____
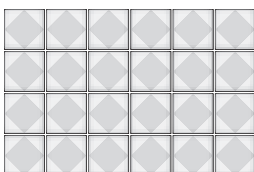
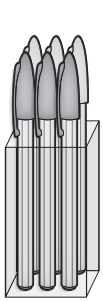Mr. Garcia's Porch          Mrs. Lansing's Porch
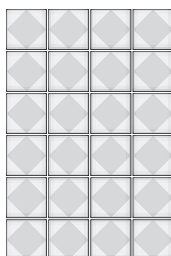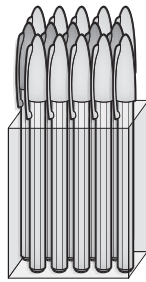
# Lesson 2-2 Practice: Problem Solving

**Solve.**

**1** **LANDSCAPING** Mr. Batista planted 15 tulip bulbs, 25 daffodil bulbs, and 12 iris bulbs. How many bulbs did he plant in all?
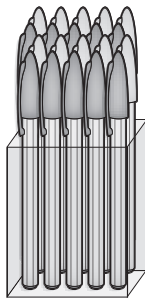
_____

**2** **PENS** Rachel bought the packages of pens shown below. How many pens did Rachel buy in all?

_____

Contains 6 Pens     Contains 15 Pens     Contains 20 Pens

**3** **PIANO** Delilah practiced the piano for 1 hour on Monday, 45 minutes on Tuesday and 1 hour 15 minutes on Wednesday. How many hours did Delilah practice in all?

_____

**4** **HOTEL** A hotel has 10 floors. Each floor has 15 rooms. Each room has 2 chairs. What is the total number of chairs in the rooms of the hotel?

_____

**5** **OLYMPICS** During the 2004 Summer Olympic Games, the United States won 36 gold medals, 39 silver medals, and 27 bronze medals. How many medals did the United States win in all?

_____

**6** **PHOTOS** Lionel filled an album with photographs. Each page has 2 rows of photographs and 4 photographs in each row. The album has 15 pages. How many photographs are in the album?

_____

*Math Triumphs*

**Lesson 2-3**

# Practice: Problem Solving

**Solve.**

**1** **GARDEN** A farmer plants tomato plants using the plan shown below. How many tomato plants does she plant in all?

_____
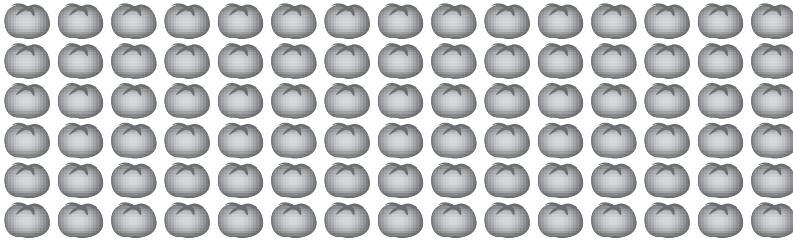
**2** **FOOTBALL** A football team scored 4 touchdowns (each worth 6 points) and 4 extra points (each worth 1 point). How many total points did the football team score?

_____

**3** **KNITTING** Lavelle knitted 12 scarves and 12 hats. Each scarf used 300 yards of yarn. Each hat used 150 yards of yarn. How many yards of yarn did Lavelle use in all?

_____

**4** **FITNESS** Alano jogged 16 miles each week for 3 weeks, then he jogged 20 miles each week for 3 weeks. How many miles did Alano jog in all?

_____

**5** **BASKETBALL** Willa made four 2-point baskets in the basketball game. Elisa made five 2-point baskets in the game. How many points did Willa and Jenna score in all?

_____

**6** **SAVINGS** Larisa saved $10 each month for 3 months. Then she saved $15 each month for 3 months. She wants to buy a digital camera that costs $100. How much more money does Larisa need to save?

_____

**7** **FLOORING** Mrs. Bateman is putting tiles on her kitchen floor in the design shown below. How many tiles does she need to buy?

_____

*Math Triumphs*
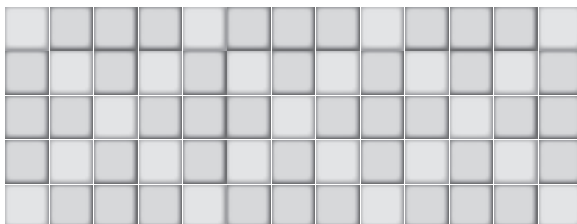
**Lesson**
**2-4** **Practice: Problem Solving**

**Solve.**

**1** **KITTENS**   Carla has 2 cats. Each cat had 5 kittens. She found homes for 7 kittens. How many cats and kittens does Carla have now?

_____

**2** **BAKERY**   A baker made 15 loaves of white bread, 12 loaves of wheat bread, and 10 loaves of rye bread. A customer bought 2 loaves of each of the 3 kinds of breads. How many loaves of bread are left?

_____

**3** **EARNINGS**   On Monday, Colin worked 3 hours, earned $10 per hour, and spent $5 for lunch. On Tuesday, Colin worked 7 hours, earned $8 per hour, and spent $6 for lunch. How much money does Colin have now?

_____

**4** **COOKIES**   Shamika baked 60 oatmeal cookies for a bake sale. She divided the cookies equally among 12 bags. At the bake sale she sold 7 bags of cookies. How many cookies does Shamika have left?

_____

**5** **COMPUTERS**   Emilio received a $15 discount when he bought an ink-jet printer. He also bought 2 black printer cartridges, 1 color printer cartridge, and 5 packages of paper. His receipt is shown below. How much did Emilio spend in all?

_____

> **Computer World**
>
> Ink-jet printer     1 @ $125.00
> – Discount                  –$15.00
>
> Black printer cartridges
>                      2 @ $35.00
>
> Color printer cartridges
>                      1 @ $35.00
>
> Paper            5 @ $5.00

**6** **AMUSEMENT PARK**   Lalana paid $12 for admission to an amusement park. She rode the roller coaster 3 times and the Ferris wheel 2 times. Each ride cost $2. She also bought a hamburger and 2 lemonade drinks during the day. How much money did Lalana spend in all?

_____

> **Lunch Menu**
>
> Hot Dog          $2.00
> Hamburger        $3.00
> French Fries     $1.00
> Lemonade         $1.50
> Water            $1.00

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**Lesson 3-1**

# Practice: Problem Solving

**Solve.**

**1**  **EARNINGS**   Flor earns $9 for every hour she works at the movie
theater. Yesterday she worked for 7 hours. Write an expression that
represents how much money Flor earned yesterday.                                      _____

**2**  **FUEL**   Nina's car has a 15-gallon gas tank. She stopped at a
gas station and pumped 11 gallons of gas. Write an expression
to represent how much gas was in Nina's tank before she
filled it.                                                                             _____

**3**  **CELL PHONE**   Goro made 40 calls on his cell phone last month.
He talked for a total of 120 minutes. Write an expression that
represents the average length of time Goro spent on each call.                        _____

**4**  **PENCILS**   Sashi had 10 pencils. She gave 1 pencil each to 6 of her
friends. Write an expression to represent how many pencils Sashi
has left.                                                                             _____

**5**  **CONCRETE**   Al is building a new cement patio in his backyard.
It will be $\frac{1}{2}$ yard thick, 4 yards wide, and 5 yards long. Write an
expression to represent how many cubic yards of concrete Al will
need to make his patio.                                                              _____

**6**  **READING**   Crystal has read 125 pages in her book. If there are a
total of 232 pages, write an expression to represent how many
pages Crystal has left to read.                                                      _____

**7**  **SCREWS**   Bimisi finds 56 screws on a shelf. He also finds a box of
150 screws in the storage room. Write an expression that
represents how many screws Bimisi has in inventory.                                  _____

*Math Triumphs*

Chapter 3

## Lesson 3-2 **Practice: Problem Solving**

**Solve.**

**1** **EXERCISE**  Juwan runs 2 miles every day. Write an expression to represent how far Juwan runs in $d$ days.  _____

**2** **AIR CONDITIONING**  Hao installs air conditioning units. Each unit can produce 1.5 tons of cooling. Write an expression for the amount of cooling of $u$ units.  _____

**3** **TRAVEL**  Leon has been driving at a constant speed of 60 miles per hour. Write an expression for how long it will take Leon to travel $m$ miles.  _____

**4** **TRIANGLES**  Write an expression for the perimeter of the triangle.  _____
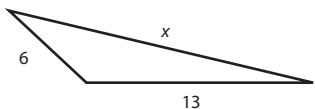


**5** **AGES**  Celeste is 15 years old. Her sister is 12 years old. Their brother is $y$ years old. Write an expression for their combined ages.  _____

**6** **READING**  Aisha reads 25 pages per hour. Write an expression for how many pages she can read in $h$ hours.  _____

**7** **TESTS**  Sumi scored $t$ points fewer than Clara on their biology test. Write an expression to find Sumi's test score if Clara received a 94 on her test.  _____

**8** **MAGAZINES**  The doctor arranged the 30 magazines equally on $t$ tables in the waiting area.  _____

**9** **AGES**  Rick is 4 years younger than his sister. Write an expression for Rick's age.  _____

Chapter 3

**Lesson**
**3-3** **Practice: Problem Solving**

**Solve.**

**1** **MOVIES** The Gibbons family has several children. When they go _____
to the movies, it typically costs $4 for each child's ticket, $2 for
each child's popcorn, and $2 for each child's soda. The expression
$4c + 2c + 2c$ represents how much it costs for the Gibbons children
to go to the movies. Simplify the expression.

**2** **HOUSEWORK** Mr. Hatano needs to clean his house. It typically _____
takes him $h$ hours to dust, $2h$ hours to vacuum, $h^2$ hours to clean
the bathrooms, and 2 hours to clean the kitchen. The expression
$h + 2h + h^2 + 2h$ represents the number of hours he needs to clean
his house. Simplify the expression.

**3** **EGGS** Mykia kept track on a chalkboard of how many dozen eggs _____
she used each day last week. Somebody erased her marks from
Saturday and Sunday. She knows she always uses twice as many
eggs on Sunday as she does on Saturday. She writes the expression
$e + 2e + 6 + 4 + 7 + 5 + 6$. Simplify the expression.

Saturday
Sunday
Monday ⊞|
Tuesday ||||
Wednesday ⊞||
Thursday |||||
Friday ⊞|

**4** **RAFFLE** Elise sold $x$ raffle tickets for the school fund-raiser. _____
Jordan sold three times as many tickets as Elise. Sasha sold 22
tickets. Nair sold 15 tickets. The expression $x + 3x + 22 + 15$
represents the number of tickets sold by these four students.
Simplify the expression.

**5** **CABINETRY** Seth packs 8 screws for each cabinet door and 4 screws _____
for each shelf. In addition, he packs 2 extra screws for each cabinet
door order and 1 extra screw for each shelf order. The expression
$8c + 2c + 4s + s$ represents the number of screws he packs.
Simplify the expression to determine how many screws should be
packed based on the number of cabinet doors and shelves.

*Math Triumphs*

**Chapter 3**

**Practice: Problem Solving**

**Solve.**

**1  EARNINGS**   For a typical shift, Alex gets paid $5 per hour, plus          _____
$3 per hour in tips, and $40 per shift. The expression $5h + 3h + 40$
represents how much Alex can expect to make during a shift.
Determine how much Alex should make if he works a 5-hour shift.

**2  ALLOWANCE**   Pelipa's parents give her points to determine her          _____
allowance. She gets 2 points for taking out the trash ($t$), 3 points
for doing the dishes ($d$), and 1 point for feeding the dog ($f$). The
expression $2t + 3d + 1f$ represents the total number of points she
gets in a week. If Pelipa took out the trash once, washed the dishes
3 times, and fed the dog for 5 days, determine the number of
points she earned for the week.

**3  GARDENING**   Sujit was told to use 10 grams of fertilizer for each          _____
tomato plant, 15 grams for each cucumber plant, and 8 grams for
each pepper plant. The expression $10t + 15c + 8p$ represents how
much fertilizer should be used. How much fertilizer does Sujit
need if he has 2 tomato plants, 1 cucumber plant, and 5 pepper
plants?

**4  ELECTRICITY**   An air conditioner (A/C) consumes 2 kilowatts of          _____
electricity on low and 5 kilowatts of electricity on high. The
expression $2l + 5h$ represents how much electricity the A/C unit
uses. Leandro ran the A/C unit for 3 hours on low and 6 hours on
high yesterday. How many kilowatts of electricity did the A/C
unit consume?

**5  SHOPPING**   When Ayako goes shopping for clothes, she likes to          _____
buy complete outfits. She typically spends $20 for pants, $p$, $15 for
shirts, $s$, and $3 for socks, $c$. The expression $20p + 15s + 3c$
represents how much she usually spends. This morning she went
shopping and bought 4 pairs of pants, 4 shirts, and 4 pairs of
socks. How much did Ayako spend?

**Chapter 3**

**Lesson 4-1**

# Practice: Problem Solving

**Solve.**

**1** **RATES** Examine the business card. Write an equation to find the number of hours the television repairman worked on the television set if he charged $115 for the repair.

| Vic's Television Repair |
| :---: |
| $30 per hour. |
| $25 flat fee for minor replacement parts. |
| *Call Vic: 555-1212* |

_____

**2** **GARDEN** Kona made a flower bed in the shape of a triangle with 3 equal sides. Three times the length of one side is equal to the perimeter. The perimeter of the flower bed is 24 feet. Write an equation to find the length of one side, $l$, of the flower bed.

_____

**3** **MEDICINE** Dr. Williams has 5 ounces of liquid medicine. He wants to add a saline solution to the medicine in order to make 8 ounces of diluted medicine. Write an equation to find the amount of saline solution that must be added.

_____

**4** **AGES** The total of Heng's and his brother Qi's ages is 56. Heng is 8 years older than his brother. Write a system of equations that represents this situation.

_____

**5** **FRAMES** Marta is framing a picture as a gift for a friend. The frame will be a rectangle whose width is 10 inches. The perimeter of her frame will be 50 inches. The perimeter of a rectangle can be found by finding the sum of twice the length and twice the width. Write an equation to find the length, $l$, of the frame.

_____

**6** **CANDY** Mrs. Montoya took a number, $n$, of peppermint candies to give her students. If she divides the candies equally among her 18 students, each gets 2 candies. Write an equation to find the number of peppermint candies she took to class.

_____

**7** **SAVINGS** Camy and Brea have been saving their allowances. Camy has $7 less than twice the amount of Brea's savings. Camy has $35 saved. Write an equation to find Brea's savings.

_____

**Chapter 4**

**Lesson 4-2**

# Practice: Problem Solving

**Solve.**

**1** **TELEVISION**   Ken is choosing between 2 packages for cable television. Write and solve an equation to find $c$, the number of additional channels Ken will receive if he gets the premium package instead of the basic package.

_____

> **SAT-COM**
> *YOUR cable company!*
> _____
> **Basic Cable Package**
> 165 channels
>
> **Premium Cable Package**
> 240 channels
>
> **Ultimate Cable Package**
> 305 channels

**2** **MOVIES**   Majestic Movies has a theater with 105 seats. On a given night, there were 28 vacant seats. Write and solve an equation to find $t$, the number of tickets sold that night.

_____

**3** **FASHION**   Kiri has a red shirt and a black shirt. The red shirt has sleeves of length 18 inches, which is 6 inches shorter than the length of the sleeves of her black shirt. Write and solve an equation to find the length, $l$, of the sleeves on her black shirt.

_____

**4** **TELEVISION**   Edgar bought a new, larger television set for his house. His new set has a 31-inch diagonal length, which is 6 inches longer than his old set. Write and solve an equation to find $d$, the diagonal length of his old set.

_____

**5** **SODIUM**   Kendra is comparing the sodium in two packages of pasta dishes. The fettuccine dish has 890 mg of sodium, which is 150 mg more than that in the angel-hair dish. Write and solve an equation to find $s$, the amount of sodium in the angel-hair dish.

_____

**6** **MUSIC**   Irene's favorite song is 3 minutes long, which is 4 minutes less than the remix of the song. Write and solve an equation to find $r$, the length of the remix.

_____

**Chapter 4**

Lesson
**4-3** **Practice: Problem Solving**

**Solve. Write the equation used to solve each problem.**

| Nutrition Facts |
|---|
| Serving Size 1 cup |
| Servings Per Container 2 |
| **Amount Per Serving** |
| **Calories** 110      **Calories from Fat** 6 |

**1** **CALORIES**   Read the label for a can of soup. Write and solve an equation to find $c$, the total calories in the entire can of soup.

_____

**2** **AGES**   Lucia's mom is three times as old as she is. Lucia's mom is 36 years old. Write and solve an equation to find $a$, Lucia's age.

_____

**3** **CONSTRUCTION**   A brick mason and his assistant can lay 750 bricks in a day. They need to lay 7,500 to complete a certain house. Write and solve an equation to find $d$, the number of days the mason and his assistant must work to complete the brick laying for the house.

_____

**4** **DEBT**   Val owes money to his friend, Nigel. If Val divides his repayment over 6 weeks, each payment to Nigel will be $8. Write and solve an equation to find $m$, the total amount of money that Val borrowed.

_____

**5** **BUBBLE GUM**   Tanner bought 7 pieces of bubble gum for 56¢. Write and solve an equation to find $g$, the cost of one piece of bubble gum.

_____

**6** **SIT-UPS**   Franz set a goal to do 500 sit-ups. He wants to do 25 sit-ups each day. Write and solve an equation to find $d$, the number of days it will take to meet his goal.

_____

**7** **BASEBALL**   In baseball, a player's batting average is found by dividing the player's number of hits by his number of times at bat. After batting 8 times, Sam's batting average was 0.375. Write and solve an equation to find $h$, the number of hits he made in 8 at bats.

_____

*Math Triumphs*

Chapter 4

**Lesson 4-4** **Practice: Problem Solving**

**Solve.**

**1** **MOVIES**   At a certain movie theater, matinee tickets cost $4 each. On Tuesday, the total revenue for the matinee was $645. Of this, the snack bar made $225. Write and solve an equation for $t$, the number of tickets sold at the matinee on Tuesday.

_____

**2** **TEMPERATURE**   At sunrise, the temperature was 54° Fahrenheit. The temperature increased 3° Fahrenheit each hour. Write and solve an equation for $h$, the number of hours after sunrise it takes for the temperature to hit 75° Fahrenheit.

_____

**3** **EARNINGS**   Emilia's mom paid her and her three siblings for raking leaves. The children split the money between the 4 of them. Emilia had already saved $3, and now she has a total of $8. Write and solve an equation for $m$, the total amount of money Emilia's mom paid to the children.

_____

**4** **HISTORY**   Abraham Lincoln delivered the Gettysburg address beginning with the excerpt below. It had been 87 years since our nation was founded in 1776. Write and solve an equation for $s$, the number of years in a *score*.

_____

> *The Gettysburg Address*
>
> *Four score and seven years ago our fathers brought forth on this continent a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal.*

**5** **BIRTHDAY**   At a birthday party, Jerry collected candy from the piñata. He gave half of the candy to his sister. When he arrived home, he put 5 pieces of the candy in a dish, leaving 7 pieces for him. Write and solve an equation to find $c$, the total number of candies Jerry collected from the piñata.

_____

**6** **TOURS**   Mr. Wright paid a city tour guide $110 for a tour of the city. Write and solve an equation to find $h$, the number of hours the tour guide worked for Mr. Wright.

_____

> **Terrific Tours!**
> *Let us show you around!*
> $10 sign up fee.
> $25 per hour charge.
> *Call Tom: 555-1212*

Chapter 4

**Lesson**
**4-5** Practice: Problem Solving

**Solve.**

**1** **MOVIES** Vara and three of her friends went out to lunch. The final bill plus tip was $24.96. If they split the bill evenly among the 4 of them, how much does Vara owe?

_____

**2** **CHEMISTRY** Lloyd is mixing a solution of sodium chloride with water. He needs 0.37 L of sodium chloride to make 1.75 L of solution. How much water does Lloyd need to add to make the solution?

_____

**3** **WOOD** Aponi has two pieces of wood that total $39\frac{5}{8}$ inches in length. Both pieces are shown. How long is the shorter piece of wood?

$32\frac{1}{2}$ inches

$\ell$

_____

**4** **PANCAKES** Jacy is making pancakes using the recipe shown. He decides to only make half of the recipe. How much flour and salt does Jacy need?

_____

Grandma's Favorite Recipe ✄
2 eggs, lightly beaten
$\frac{1}{4}$ cup canola oil
$2\frac{1}{2}$ cups flour
$1\frac{1}{2}$ teaspoons salt
2 teaspoons baking soda
2 cups buttermilk

**5** **READING** Elio read the same number of pages on Monday, Tuesday, Wednesday, and Thursday. On Friday he read 30 pages. In the five days, he read a total of 138 pages. How many pages did he read each of the other days?

_____

**6** **DONATIONS** Gloria is going to donate all of the money in her piggy bank to 3 charities. She has $21.15 and wants to give equal amounts to each charity. How much will Gloria give to each charity?

_____

**7** **FABRIC** Chantal cut 7 yards of fabric into 9 pieces to make curtains. One piece is $\frac{1}{2}$ yard long. Another is 0.55 yard long. The remaining 7 pieces are the same length. What is the length of each of the other seven pieces?

_____

Chapter 4

# Practice: Problem Solving

**Solve.**

1 **PROFITS**  Candice makes and sells necklaces. She makes a profit
of $5 on each necklace she sells. Write an inequality to find $n$, the
number of necklaces Candice must sell to have a profit greater
than $75.                                                                            _____

2 **COLLECTIONS**  Kelly has a butterfly
collection. She adds 2 butterflies to her
collection each weekend. Write an
inequality to find $w$, the number of
weekends Kelly must collect butterflies
to at least fill the box.                                                            _____
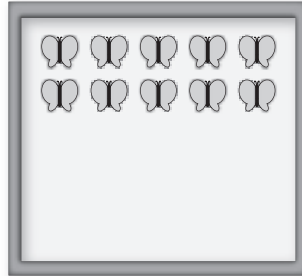
3 **CONFERENCES**  A small company has $560 in its budget for a
business conference. The transportation to the conference will
cost $40 in gas. The registration cost is $65 per person. Write
an inequality to find $p$, the number of people the company
can send to the conference without spending more than the
budgeted amount.                                                                     _____

4 **TEMPERATURE**  The thermostat shown
at the right has two settings. One shows
the current indoor temperature, 62° F;
the other shows the temperature at
which the air conditioner will come on,
74° F. If the temperature inside increases
2° F each hour, write the inequality to
find $h$, the number of hours that the
temperature remains less than the air-
conditioner setting.                                                                 _____
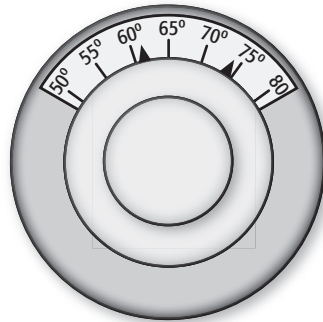
5 **TAXI**  A taxi costs $4 for the first half-mile. Each additional half-
mile costs $2. Emma only has $20 to spend. Write an inequality to
find $m$, the number of additional half-miles Emma can go in a taxi
and still keep her cost less than $20.                                               _____

6 **SAVINGS**  Santiago has $50 in his savings account. He needs
to save at least $100 to buy a video game system. He puts
$15 per week into the savings account. Write an inequality to
find $w$, the number of weeks before Santiago's account has at
least $100.                                                                         _____

**Lesson 5-2** **Practice: Problem Solving**

**Solve.**

**1** **RUNNING**   Suzette was starting a running program. She wanted to
run for at least 3 hours this week. On Monday, Tuesday, and
Wednesday, she ran for 0.5 hour each day. Write and solve an
inequality to find $h$, the number of hours Suzette still needs to
run in order to meet her goal.

_____

**2** **SPEED LIMIT**   Taka slowed down by 20 miles
per hour in order to have a speed less than or
equal to the limit. Write and solve an inequality
to find $s$, Taka's original speed.

**SPEED
LIMIT
45
MPH**

_____
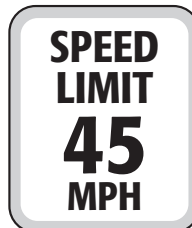
**3** **GRADES**   Marcus has a total of 930 points in his history class.
He needs at least 1,020 points to earn a B in the class. The
remaining grade is an essay test. Write and solve an inequality
to find $g$, the grade Marcus needs on the test to earn at least
a B in the class.

_____

**4** **VACATION**   The Assante family is driving to the beach for their
vacation. The drive will take at most 8 hours. By noon, the family
has been driving for 3 hours. Write and solve an inequality to
find $t$, the amount of time remaining until they reach the beach.

_____

**5** **AGES**   The sum of the ages of Zac and Thomas is greater than 10.
Thomas is 4 years old. Write and solve an inequality to find $a$, the
age of Zac.

_____

**6** **TELEVISION**   Alden has the Basic Cable
Package offered by his satellite TV company.
Five of its channels provide only information
and scheduling.

Refer to the cable package descriptions shown
at the right. Write and solve an inequality to
find $n$, the number of channels that provide
actual programming.

**DISH TV**
*YOUR cable company!*

**Basic Cable Package**
more than 150 channels

**Premium Cable Package**
240 channels

**Ultimate Cable Package**
305 channels

_____

**7** **COOKIES**   Jada is baking cookies. Looking in the refrigerator,
she sees that she has less than 6 sticks of butter. She bought 4
sticks at the grocery store before she began cooking. Write and
solve an inequality to find $b$, the number of sticks of butter Jada
had before going to the grocery store.

_____

**8** **AGES**   Quincy is 10 years older than Veronica. Quincy is at least 21
years old. Write and solve an inequality to find $a$, Veronica's age.

_____

*Math Triumphs*

**Lesson 5-3** **Practice: Problem Solving**

**Solve.**

**1** **BOTTLED WATER** Megan needed to buy 5 bottles of water for herself and her friends. Megan bought the bottles of water and paid with the cash shown in the picture. Write and solve an inequality to find $b$, the cost of one bottle of water.

_____

**2** **CALORIES** A chicken and rice casserole serves 6 people and has at least 1,920 Calories. Write and solve an inequality to find $c$, the number of Calories in one serving of the casserole.

_____

**3** **TYPING** When calculating typing speed, 5 typed characters equal 1 word. An executive assistant can type more than 82 words in 1 minute. Write and solve an inequality to find $c$, the number of characters the assistant can type in 1 minute.

_____

**4** **READING** Cody spent at least 30 minutes reading 15 pages of a novel. Write and solve an inequality to find $m$, the number of minutes Cody spent reading each page.

_____

**5** **AGES** Rita's age is less than a third of her mother's age. Rita is 14 years old. Write and solve an inequality to find $m$, Rita's mother's age.

_____

**6** **EXERCISE** Hector did more than 175 chin-ups in one week. He did the same number of chin-ups each day. Write and solve an inequality to find $c$, the number of chin-ups Hector did each day.

_____

**7** **EXERCISE** Sara ran 10 miles yesterday. She ran more than twice as far as Jason ran. Write and solve an inequality to find $d$, the distance Jason ran.

_____

**8** **MOVIES** Refer to the movie-rental sign to the right. Eliza rented 5 movies. Write and solve an inequality to find $m$, the cost of each movie rental.

**Movie-Time
Video Rentals**

Tuesday special:
5 rentals for
less than $15!

_____

**9** **GARDENING** Today Raul worked in his garden a third of the time that he worked in his garden yesterday. At most, he worked 2 hours in his garden today. Write and solve an inequality to find $h$, the number of hours Raul worked in his garden yesterday.

_____

*Math Triumphs*

**Lesson**
# 5-4 Practice: Problem Solving

**Solve.**

**1** **EARNINGS**   Jean has a sales job with a base salary of $300 per week. She can also earn $50 for each sale she makes. Write and solve an inequality to find $s$, the number of sales she needs in order to earn at least $750 per week.

_____

**2** **FUND-RAISER**   The cheerleading team needs at least $500 for new uniforms. They received a donation of $200 and will earn the rest at their car wash. Refer to the sign at the right. Write and solve an inequality for $c$, the number of cars the cheerleaders need to wash.

_____

**3** **SEASHELLS**   Alison needs fewer than 100 seashells to finish decorating her picture frame. She collects 40 shells at the beach. She needs to purchase the rest and buys 3 packages of shells, each with an equal number of shells. Write and solve an inequality to find $s$, the number of shells in each package.

_____

**4** **FASHION**   Patricia bought one belt and several scarves. She spent less than $70. Refer to the sign at the right. Write and solve an inequality to find $s$, the number of scarves Patricia bought.

_____

**5** **MARATHON**   Reginald is training for a marathon and must train for at least 120 minutes each day. He exercises in 20-minute sessions, using various machines at the gym. In the morning he trains for 40 minutes. Write and solve an inequality to find $t$, the number of sessions he should train in the evening.
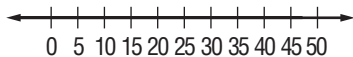
_____

**6** **CLASS**   Mr. Singh arranged his class into 5 groups with at least 4 students in each group. Jamal reminded him that there were 3 students who were absent. Write and solve an inequality to find $n$, the total number of students enrolled in Mr. Singh's class.

_____

**7** **TRAVEL**   When driving long distances, Damian always takes a break after no more than 90 miles. On his most recent road trip, he took 4 breaks. Write and solve an inequality to find $d$, the total number of miles on Damian's most recent road trip.
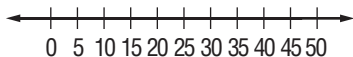
_____

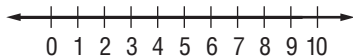**Lesson 5-5** Practice: Problem Solving

**Solve.**

**1** **TEMPERATURE**   Water freezes once its temperature is less than or equal to 32° Fahrenheit. The water in Miguel's pond froze after its temperature dropped 8° Fahrenheit. Write and solve an inequality to find $t$, the starting temperature of his pond. Graph the solution on a number line.   _____
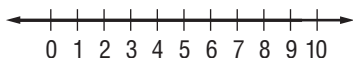
$$\begin{array}{c} \longleftarrow\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!\longrightarrow \\ 0\ \ 5\ \ 10\ 15\ 20\ 25\ 30\ 35\ 40\ 45\ 50 \end{array}$$

**2** **STUDIES**   Cierra spends 2 times longer studying history than she does studying math. She spends at least 40 minutes studying history. Write and solve an inequality to find $m$, the amount of time Cierra spends studying math. Graph the solution on a number line.   _____
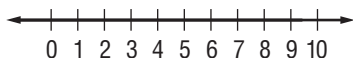
$$\begin{array}{c} \longleftarrow\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!\longrightarrow \\ 0\ \ 5\ \ 10\ 15\ 20\ 25\ 30\ 35\ 40\ 45\ 50 \end{array}$$

**3** **MONEY**   Tabitha must spend less than $10 at the ballpark today. She bought a bottle of water for $1 and a hamburger for $5. Write and solve an inequality to find $s$, the amount of money Tabitha has left to spend. Graph the solution on a number line.   _____
_____

$$\begin{array}{c} \longleftarrow\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!\longrightarrow \\ 0\ \ 1\ \ 2\ \ 3\ \ 4\ \ 5\ \ 6\ \ 7\ \ 8\ \ 9\ 10 \end{array}$$

**4** **FISH**   Tucker has a large aquarium with many fish. He must keep at least 5 Chinese algae eaters in the tank to reduce the build up of algae. He has 2 of these fish in the tank now. Write and solve an inequality to find $a$, the number of algae eaters he must buy for his aquarium. Graph the solution on a number line.   _____
_____

$$\begin{array}{c} \longleftarrow\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!\longrightarrow \\ 0\ \ 1\ \ 2\ \ 3\ \ 4\ \ 5\ \ 6\ \ 7\ \ 8\ \ 9\ 10 \end{array}$$

**5** **INTERNET**   Sue's internet service charges a $10 monthly fee plus $5 for each hour she spends online. She wants to keep her monthly bill at or below $30. Write and solve an inequality to find $h$, the number of hours she can spend online. Graph the solution on a number line.   _____
_____

$$\begin{array}{c} \longleftarrow\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!\longrightarrow \\ 0\ \ 1\ \ 2\ \ 3\ \ 4\ \ 5\ \ 6\ \ 7\ \ 8\ \ 9\ 10 \end{array}$$

**6** **TRAVEL**   For a business conference, Donald must drive at most 300 miles. He has already driven 80 miles, and he has 4 hours to reach his destination. Write and solve an inequality to find $s$, the speed Donald must drive on the trip. Graph the solution on a number line.   _____
_____

$$\begin{array}{c} \longleftarrow\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!\longrightarrow \\ 0\ \ 10\ 20\ 30\ 40\ 50\ 60\ 70\ 80\ 90\ 100 \end{array}$$

*Math Triumphs*