



# GRADE 3 SUPPLEMENT

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## Set F1 Problem Solving: Strategies

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### Skills & Concepts

- ★ solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness
- ★ select or develop appropriate problem-solving strategies, including act it out with objects, draw a picture, write an equation, systematic guess & check, and make a list
- ★ explain the solution process

**Bridges in Mathematics Grade 3 Supplement**

**Set F1** Problem Solving: Strategies

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*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

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# Set F1 ★ Activity 1



## ACTIVITY

### Three Coins

#### Overview

This is the first of 3 problem solving activities designed to help students learn to restate the problem, identify relevant information in the problem, show their work completely, and reflect on their solution.

#### Skills & Concepts

- ★ solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness
- ★ select or develop appropriate problem-solving strategies, including act it out with objects, draw a picture, write an equation, systematic guess & check, and make a list
- ★ explain the solution process

#### You'll need

- ★ Three Coins (page F1.4, run 1 transparency and a class set on copy paper.)
- ★ real or plastic coins (pennies, nickels, dimes, and quarters)
- ★ chart paper and marking pens

.....  
**Note** Save today's chart of problem solving strategies for Set F1 Activities 2 and 3  
 .....

#### Instructions for Three Coins

1. Tell students that they're going to solve some problems about money today. Before you show them the first one, remind them to keep the answer "under their hat" if they know what it is right away, so they don't spoil the fun for the rest of the class.

2. Display the top portion of the Three Coins overhead. Read the problem out loud with the students. Work with the class to formulate a statement or question that summarizes what the problem is asking them to do. Then work with student input to underline the information in the problem that will lead to a solution.

Set F1 Data Analysis: Probability Blackline Run 1 overhead and a class set on copy paper.	
NAME _____	DATE _____
<b>Three Coins</b>	
Jade has <u>3 coins in her pocket</u> . <u>They are worth 31¢</u> . What coins does she have?	
1. What is this problem asking you to figure out?	
Find out what coins Jade has in her pocket.	
2. Underline any information in the problem that will help you find the answer.	

3. Give each student a copy of the Three Coins blackline. Review the entire sheet with the class before they begin. Remind them to be as complete as possible in showing their work; the answer alone is not enough. Someone else should be able to read their paper and see how they got their answer without having to talk with them. Be sure they understand that they have to write the answer on the line toward the bottom of the sheet.

**Activity 1** Three Coins (cont.)

4. Then give students time to solve the problem independently, using whatever strategies and manipulatives (coins) they find helpful. Leave the overhead on so they can refer to the summary and underlining the class did together.

5. While they work, circulate among them to see the different strategies they are using. Students who finish early (and have done a thorough job of showing their work) can be invited to start the challenge problem at the bottom of the sheet.

6. When most have finished, invite students to share their work with the class. After each volunteer shares, list the type of strategy he or she used on the chart paper.

**Dani** *I got some coins and just kept trying different things until I got the one that worked. It turned out to be a quarter, a nickel, and a penny.*

**Tamara** *I did kind of like Dani. I just got out the coins and tried different things until I got 31 cents.*

**Teacher** *I'm going to list the types of strategies you used on this chart paper. It sounds like Tamara and Dani both used coins to act out the problem. Did anyone have a different strategy?*

**Trevon** *At first I thought it was going to be 3 dimes and a penny. I was sure I had the answer and then Zack told me it had to be just 3 coins, so I had to get out the coins and try different things before I found the answer.*

Our Problem Solving Strategies

- use objects
- systematic guess and check

7. Once you've recorded the different types of strategies students used, ask them to reflect on the answer (1 quarter, 1 nickel, and 1 penny). Is it reasonable? Why?

**Students** *Because it works!*

*It follows the rules. The problem said she had 3 coins, and they added up to 31¢.*

*There are other things that make 31¢, but this is the only one with 3 coins.*

*I know why. It's because a quarter is the most money. If you start with a dime instead, you can't make 31¢ with just 3 coins.*

8. If time allows, ask students to work on the challenge problem at the bottom of the sheet. Students who solve the challenge quickly and easily can be asked to find all the different coin combinations that make 31¢. (The 18 possible combinations are listed on the chart below:.)

**Activity 1** Three Coins (cont.)

Coin Combinations				
Pennies	Nickels	Dimes	Quarters	Number of Coins
31				31
26	1			27
21	2			23
21		1		22
16	3			19
16	1	1		18
11	4			15
11	2	1		14
11		2		13
6	5			11
6	3	1		10
6	1	2		9
6			1	7
1	6			7
1	4	1		6
1	2	2		5
1		3		4
1	1		1	3

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## Three Coins

Jade has 3 coins in her pocket. They are worth 31¢. What coins does she have?

**1** What is this problem asking you to figure out?

**2** Underline any information in the problem that will help you find the answer.

**3** Use this space to solve the problem. (If you need more room, use the back of the sheet.) Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.

Answer: \_\_\_\_\_



### CHALLENGE

**4** Can you find a way to make 31¢ with 4 coins? What about 5, 6, 7, or 8 coins? Show your work on the back of this sheet.

# Set F1 ★ Activity 2



## ACTIVITY

### The Farm

#### Overview

This activity features two problems designed to elicit additional problem-solving strategies.

#### Skills & Concepts

- ★ solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness
- ★ select or develop appropriate problem-solving strategies, including act it out with objects, draw a picture, write an equation, systematic guess & check, and make a list
- ★ explain the solution process

#### You'll need

- ★ The Farm (page F1.8, run 1 transparency and a class set on copy paper.)
- ★ a few blank transparencies
- ★ chart of problem solving strategies from Set F1 Activity 1
- ★ math manipulatives available

**Note** Save today's chart of problem-solving strategies for Set F1 Activity 3.

#### Recommended Timing

Anytime after Set F1 Activity 1

#### Instructions for The Farm

1. Let students know that you have a new problem for them today. Before you show it, remind them to keep the answer to themselves if they know what it is right away, so they don't spoil the fun for their classmates.
2. Display the top portion of The Farm overhead. Read the problem out loud with the students. Work with the class to formulate a statement or question that summarizes what the problem is asking them to do. Then work with students' input to underline the information in the problem that will lead to a solution.

Set F1 Data Analysis: Probability Blackline Run 1 overhead and a class set on copy paper.

NAME \_\_\_\_\_ DATE \_\_\_\_\_

### The Farm

Rosa took her little brother, Ramon, to the farm one day. She looked over the fence into a barnyard that had ducks and pigs. She said she could see 6 heads in all. Ramon looked under the fence and said he saw 20 legs in all. How many ducks and how many pigs were there in the barnyard?

**1** What is this problem asking you to figure out?

Figure out how many ducks and pigs there were in the yard.

**2** Underline any information in the problem that will help you find the answer.

**3** Use this space to solve the problem. (If you need more room, use the back of the sheet.) Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.

**Activity 2** The Farm (cont.)

3. Now draw students' attention to the chart of strategies you started during Set F1 Activity 1. Would any of these strategies be useful today? Ask the class to brainstorm other strategies they might use to solve the problem. Add any new ideas to the chart.

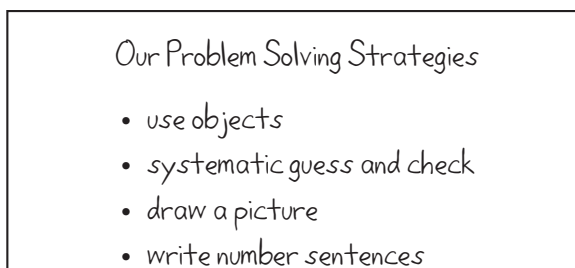
**Students** *We could use some of the stuff from the math shelf. Like we could get those little cups for the heads and put cubes in them for the legs.*

*I'm going to make 6 circles and draw little lines for legs on them.*

*You can just start with one idea and keep changing it 'til you get the right answer.*

*I think you could just try adding different numbers like 4's and 2's 'til you got 20 in all.*

*Yeah, but don't forget that you have to get it so there's 6 heads.*



4. Distribute copies of The Farm blackline. Ask students to copy the problem summary from the overhead (or write their own), and underline the relevant information.

5. Then give students time to solve the problem independently, using whatever strategies and manipulatives they find helpful. Remind them to be as complete as possible in showing their work; the answer alone is not enough. Be sure they understand that they have to write the answer on the line toward the bottom of the sheet.

6. While they work, circulate among them to see the different strategies they are using. Students who finish early (and have done a thorough job of showing their work) can be invited to start the challenge problem at the bottom of the sheet.

7. When most have finished, invite volunteers to share their work with the class. You can facilitate this by placing a blank transparency on top of the Farm overhead so it doesn't have to be erased each time another student shares. Some teachers also like to ask a few students to replicate their work on overheads before the class discussion.

8. Once a variety of strategies have been shared and there's general agreement about the solution (4 pigs and 2 ducks), ask students to reflect on it for a minute or two. Is it reasonable? Why?

**Students** *Because everyone got the same thing!*

*You know there have to be 6 animals, right? But there are 20 legs and that's way more than 6, so it makes sense that more of the animals have 4 legs.*

*It works if you add it up. We all said it's 4 pigs and 2 ducks. So just add the numbers, like  $4 + 4 + 4 + 4$  is 16. If you add  $2 + 2$  more for the ducks, it makes 20.*

*Everyone has at least 2 legs. So for 6 heads, that's 12 legs. We need 8 more legs so 4 animals get 2 more legs.*

**Activity 2** The Farm (cont.)

9. If time allows, have students work on the challenge problem at the bottom of the sheet. Students who solve the challenge quickly and easily can be asked to write similar but harder problems based on such scenarios as cars and bikes in the parking lot, chairs and 3-legged stools in the kitchen, crows and squirrels in a tree, and so on. Encourage these students to trade problems with one another.

NAME \_\_\_\_\_

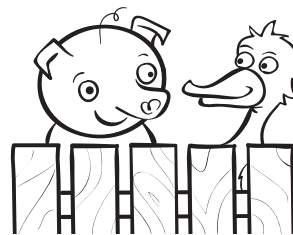
DATE \_\_\_\_\_

# The Farm

Rosa took her little brother, Ramon, to the farm one day. She looked over the fence into a barnyard that had ducks and pigs. She said she could see 6 heads in all. Ramon looked under the fence and said he saw 20 legs in all. How many ducks and how many pigs were there in the barnyard?

- 1 What is this problem asking you to figure out?
- 2 Underline any information in the problem that will help you find the answer.
- 3 Use this space to solve the problem. (If you need more room, use the back of the sheet.) Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.

Answer: \_\_\_\_\_



## CHALLENGE

- 4 Rosa and Ramon went into the back field and saw some chickens and dogs running around. They saw 18 legs, not including their own. How many chickens and how many dogs were there? There is more than one answer. See if you can find all of them. Show your work on the back of this sheet.

# Set F1 ★ Activity 3



## ACTIVITY

### The Dart Board

#### Overview

Students compare and contrast several different responses to a problem they solved in F1 Activity 2 and work together to develop a set of guidelines for writing effective solutions. Then they apply their guidelines to solving another problem.

#### Skills & Concepts

- ★ solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness
- ★ select or develop appropriate problem-solving strategies, including act it out with objects, draw a picture, write an equation, systematic guess & check, and make a list
- ★ explain the solution process

#### Recommended Timing

Anytime after Set F1 Activity 2

#### You'll need

- ★ Sample Solutions (page F1.13, run 1 transparency)
- ★ The Dart Board (page F1.14, run a class set and 1 copy on a transparency)
- ★ a piece of paper to mask parts of the overhead
- ★ a few blank transparencies
- ★ chart of problem solving strategies from Set F1 Activities 1 and 2
- ★ chart paper and markers
- ★ math manipulatives available

#### Instructions for The Dart Board

1. Explain to students that you want to show them some responses to one of the problems they solved during the last activity. Place the problem at the top of the Sample Solutions overhead on display, masking the rest of the overhead for now. Even if it's been awhile since you did Set F1 Activity 2, many students will remember the problem and may be able to recall the solution or reconstruct it very quickly.
2. Then show the first response and ask students to examine it carefully. Did Student 1 get the correct answer? Can they understand how he or she solved the problem?
3. Repeat the process with the other two responses on the overhead. As students examine each one, ask them the same questions. Did the student get the correct answer, and can they understand how he or she solved the problem?
4. After you've shown all 3, ask students to compare and contrast the solutions. Which one shows the most clearly how the student solved the problem? What did that student do to make his or her work especially effective? Can the children suggest ways to fix the other 2 solutions so they would be more effective?

## Activity 3 The Dart Board (cont.)

Set F1 Data Analysis: Probability Blackline Run 1 copy on a transparency.

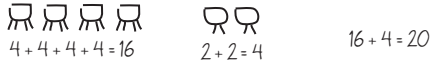
### Sample Solutions

Rosa took her little brother, Ramon, to the farm one day. She looked over the fence into a barnyard that had ducks and pigs. She said she could see 6 heads in all. Ramon looked under the fence and said he saw 20 legs in all. How many ducks and how many pigs were there in the barnyard?

Student 1  
4 pigs and 2 ducks  
I put cubes together until I found the right answer.

---


Student 2  
4 pigs and 2 ducks




$4 + 4 + 4 + 4 = 16$        $2 + 2 = 4$        $16 + 4 = 20$

---

Student 3  
4 pigs and 2 ducks  
First I drew 6 circles for the heads. I started with 3 pigs and 3 ducks but it only made 18 legs.



I needed 2 more legs so I turned one of the ducks into a pig.  
That made 20 legs



4 pigs have 16 legs      2 ducks have 4 legs       $16 + 4 = 20$

5. After they've discussed the 3 different solutions, explain that you want students to develop a set of class guidelines for showing their work. What are some of the things they can do to help other people understand how they've solved a problem? List their ideas on a piece of chart paper. (It's fine to contribute some of your own, and the list will vary from class to class. The following is a sample.)

### Class Guidelines for Showing Our Work

- explain how you did the problem
- show all your steps
- label all your drawings
- try to use at least two of these: numbers, pictures, words
- remember to show the answer clearly
- be neat and organized
- check your answer to see if it makes sense and works

6. Now ask students to apply their own guidelines by solving a new problem. Place the top portion of The Dart Board overhead on display. Read the problem out loud with the students, and work with them to formulate a statement or question that summarizes what the problem is asking them to do. Then work with input from the class to underline the information in the problem that will lead to a solution.

## Activity 3 The Dart Board (cont.)

Set F1 Data Analysis: Probability Blackline Run 1 transparency and a class set on copy paper.

NAME \_\_\_\_\_ DATE \_\_\_\_\_

### The Dart Board

Willie and his dad were playing darts in the basement. Willie threw 3 darts and all 3 of them hit the board. What are all the possible scores he could have gotten?

1 What is this problem asking you to figure out?

Figure out all the different scores Willie could have gotten.

2 Underline any information in the problem that will help you find the answer.

7. Now draw students' attention to the chart of strategies you started during Set F1 Activity 1. Would any of these strategies be useful today? Ask the class to brainstorm other strategies they might use to solve the problem. Add any new ideas to the chart.

Our Problem Solving Strategies

- use objects
- systematic guess and check
- draw a picture
- write number sentences
- make a list or table

8. Distribute copies of the Dart Board blackline. Ask students to copy the problem summary from the overhead (or write their own), and underline the relevant information. Then give students time to solve the problem independently, using whatever strategies and manipulatives they find helpful. Ask them to follow the class guidelines as closely as they can. Encourage them to use scratch paper to try different ideas, but to include some of their mistakes and things that didn't work on their problem-solving sheet. The idea is to help people understand how they solved the problem, not to make a perfect presentation.

10. When most have finished, invite volunteers to share their work with the class. You can facilitate this by placing a blank transparency on top of the Dart Board overhead so it doesn't have to be erased each time another student shares. Some teachers also like to ask a few students to replicate their work on overheads before the class discussion.

11. Once a variety of strategies and solutions have been shared, ask students what they did to be sure they had all the possible scores.

**Students** *I just kept doing more and more until I couldn't think of any more.*

*I think it really helps to make a list so you can keep track of stuff.*

*The lowest score was 3 because he'd get that if he only hit the 1, and the highest is 18 from hitting the 6 every time.*

*Then if you make a list, you can figure out other scores.*

12. Save the Problem Solving Strategy list and the Class Guidelines for Showing Work. You can continue to add to the strategy list as students encounter different types of problems, and encourage children

### Activity 3 The Dart Board (cont.)

to use their own guidelines as they solve problems throughout the year. You might even want to make small copies of the guidelines and give each student one to keep in his or her math binder.



#### INDEPENDENT WORKSHEET

See Set F1 Independent Worksheets 1–9 for a collection of 9 more problems. Some of these will generate additional problem-solving strategies, such as looking for a pattern, working a simpler problem, or working backwards.

## Sample Solutions

Rosa took her little brother, Ramon, to the farm one day. She looked over the fence into a barnyard that had ducks and pigs. She said she could see 6 heads in all. Ramon looked under the fence and said he saw 20 legs in all. How many ducks and how many pigs were there in the barnyard?

Student 1

4 pigs and 2 ducks

I put cubes together until I found the right answer.

Student 2

4 pigs and 2 ducks



$$4 + 4 + 4 + 4 = 16$$



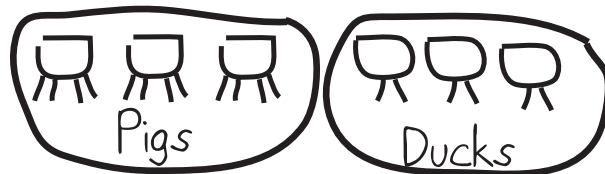
$$2 + 2 = 4$$

$$16 + 4 = 20$$

Student 3

4 pigs and 2 ducks

First I drew 6 circles for the heads. I started with 3 pigs and 3 ducks but it only made 18 legs.



I needed 2 more legs so I turned one of the ducks into a pig.

That made 20 legs

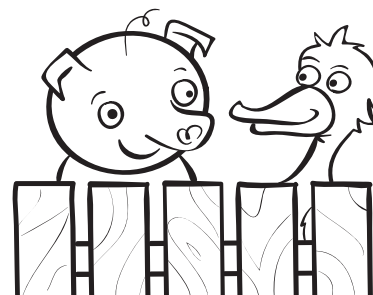


4 pigs have 16 legs



2 ducks have 4 legs

$$16 + 4 = 20$$



NAME \_\_\_\_\_

DATE \_\_\_\_\_

# The Dart Board

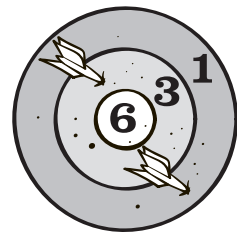
Willie and his dad were playing darts in the basement. Willie threw 3 darts and all 3 of them hit the board. What are all the possible scores he could have gotten?

**1** What is this problem asking you to figure out?

**2** Underline any information in the problem that will help you find the answer.

**3** Use this space to solve the problem. (If you need more room, use the back of the sheet.) Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.

Answer: \_\_\_\_\_



## CHALLENGE

**4** Draw your own dart board with 3 rings. Label each ring with a different number between 4 and 15. Figure out all the possible scores someone could get if they threw 3 darts and all 3 hit the board. If you want even more of a challenge, do the same thing, but draw a dart board with 4 rings instead of 3. Then figure out all the possible scores if someone threw 4 darts and all 4 hit the board.

NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Set F1 ★ Independent Worksheet 1



## INDEPENDENT WORKSHEET

### Coin Problems

**1** Taylor has 8 coins in his pocket. They're worth 35¢. How many of each coin does Taylor have?

**a** What is this problem asking you to figure out?

**b** Underline any information in the problem that will help you find the answer.

**c** Use this space to solve the problem. (If you need more room, use the back of the sheet.) Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.

Answer: \_\_\_\_\_



## CHALLENGE

**2** Ray has only nickels in his hand and Brisa has exactly the same number of dimes and no other coins. Together they have a total of 90¢. How many nickels is Ray holding? How many dimes is Brisa holding? Show your work on the back of this sheet.



NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Set F1 ★ Independent Worksheet 2



## INDEPENDENT WORKSHEET

### Cars & Trucks

**1** An auto carrier can hold 8 cars. If the car dealer has 28 cars to deliver, how many auto carriers will he need to get the job done?

**a** What is this problem asking you to figure out?

**b** Underline any information in the problem that will help you find the answer.

**c** Use this space to solve the problem. (If you need more room, use the back of the sheet.) Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.

Answer: \_\_\_\_\_



### CHALLENGE

**2** Jamal's family is driving to Dallas. When they pulled into the roadside stop, Jamal saw some 18-wheeler trucks and some cars in the parking lot. He saw 62 wheels in all, not including the wheels on his family's car. How many 18-wheelers and how many cars were there not including his family's car? Show your work on the back of this sheet.



NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Set F1 ★ Independent Worksheet 3



## INDEPENDENT WORKSHEET

### Buttons

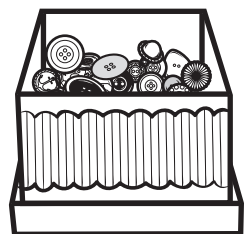
**1** Amber found some buttons in a box at her grandma's house. There were 26 holes in all. How many of the buttons had 4 holes? How many had 2 holes? There is more than one answer. See if you can find all of them. Do you notice any patterns?

**a** What is this problem asking you to figure out?

**b** Underline any information in the problem that will help you find the answer.

**c** Use this space to solve the problem. (If you need more room, use the back of the sheet.) Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.

Answer: \_\_\_\_\_





NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Set F1 ★ Independent Worksheet 4



## INDEPENDENT WORKSHEET

### Baseball Cards

**1** Jade gave half of her baseball cards to Dani. Then she gave 7 cards to Kris. Now she has 8 cards left. How many cards did she have to start with?

**a** What is this problem asking you to figure out?

**b** Underline any information in the problem that will help you find the answer.

**c** Use this space to solve the problem. (If you need more room, use the back of the sheet.) Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.

Answer: \_\_\_\_\_



### CHALLENGE

**2** Dani started her own baseball card collection. After a few months, Dani gave 9 cards to her friend Molly. Then she gave half of what was left to her brother. Now she has 21 cards left. How many cards did she have to start with? Show your work on the back of this sheet.



NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Set F1 ★ Independent Worksheet 5



## INDEPENDENT WORKSHEET

### The Cardinals

**1** Complete the chart below to show the points the Cardinals scored in each of their seven games. Game 3, six points; Game 4, seven points; Game 5, four points; Games 6 and 7, five points each.

Game 1	8
Game 2	6
Game 3	
Game 4	
Game 5	
Game 6	
Game 7	
Game 8	

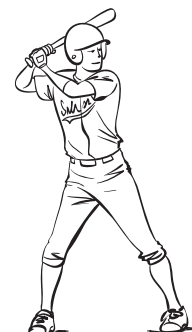
**2** The Cardinals hope to reach 50 points by the end of the season. They have one more game to go. How many points do they need to score in Game 8 to reach their goal?

**a** What is this problem asking you to figure out?

**b** Underline any information in the problem that will help you find the answer.

**3** Use this space to solve the problem. (If you need more room, use the back of the sheet.) Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.

Answer: \_\_\_\_\_





NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Set F1 ★ Independent Worksheet 6



## INDEPENDENT WORKSHEET

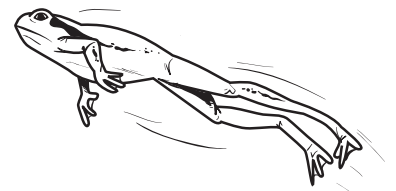
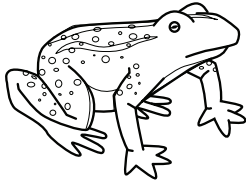
### Frog & Toad

**1** Frog and Toad were hopping on a stairway that had 12 steps. Frog landed on every second step. Toad landed on every third step. Which steps did they both land on?

**a** What is this problem asking you to figure out?

**b** Underline any information in the problem that will help you find the answer.

**c** Use this space to solve the problem. (If you need more room, use the back of the sheet.) Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.



Answer: \_\_\_\_\_



### CHALLENGE

**2** Frog can jump farther than Toad. Every time Toad jumps 7 feet, Frog jumps 10 feet. If they each take 5 jumps, how many feet will Frog be ahead of Toad? Show your work on the back of this sheet.



NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Set F1 ★ Independent Worksheet 7



## INDEPENDENT WORKSHEET

### Recycling Cans

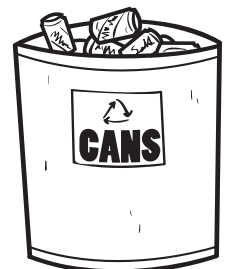
**1** Max, Jose, David, and Anthony are recycling cans for their scout troop. So far, Anthony has collected 5 more cans than David. Max has collected half as many cans as Anthony. Jose has collected 15 fewer cans than Max. David has collected 55 cans. How many cans have Max, Jose, and Anthony collected? How many cans have the 4 boys collected in all ?

**a** What is this problem asking you to figure out?

**b** Underline any information in the problem that will help you find the answer.

**c** Use this space to solve the problem. (If you need more room, use the back of the sheet.) Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.

Answer: \_\_\_\_\_





NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Set F1 ★ Independent Worksheet 8



## INDEPENDENT WORKSHEET

### The School Store

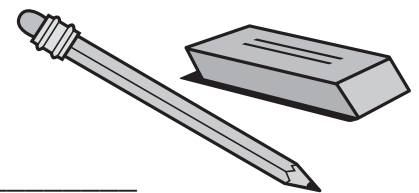
1 Sara went to the school store at recess. She saw this sign on the door.

Special Sale—Today Only!	
Pencils	7¢ each
Erasers	5¢ each
Limit 3 per customer	

She had 20¢ in her pocket. How many different combinations of pencils and erasers could she buy? (She didn't have to spend all her money, but she did buy 3 items.)

- a** What is this problem asking you to figure out?
- b** Underline any information in the problem that will help you find the answer.
- c** Use this space to solve the problem. (If you need more room, use the back of the sheet.) Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.

Answer: \_\_\_\_\_



## CHALLENGE

2 Pencils usually cost 15¢ each, and erasers cost 9¢ each at the school store. Jake and his sisters bought 9 items and spent exactly 99¢. How many pencils did they buy, and how many erasers? Show your work on the back of this sheet.



NAME \_\_\_\_\_

DATE \_\_\_\_\_

## Set F1 ★ Independent Worksheet 9



### INDEPENDENT WORKSHEET

#### Olivia's Rock Collection

**1** Olivia has a rock collection. When she divides her rocks evenly into piles of 4, 5, or 6, there's one rock left over each time. If there are at least 2 rocks, what is the smallest number of rocks she could have in her collection?

**a** What is this problem asking you to figure out?

**b** Underline any information in the problem that will help you find the answer.

**c** Use this space to solve the problem. (If you need more room, use the back of the sheet.) Show all your work using numbers, words, and/or labeled sketches. Write the answer on the line below when you're finished.

Answer: \_\_\_\_\_



