

Lesson 9 Reteach

Problem Solving: Use Logical Reasoning

Six teams are competing in a volleyball tournament at the school. Each team has 6 players. Some teams brought 1 extra player in case someone is injured. There are 39 players at the tournament. How many teams brought an extra player?

<p>Step 1 Understand</p>	<p>What facts do you know?</p> <p>There are 6 teams. Each team has 6 players. Some teams brought 1 extra player. There are 39 players at the tournament.</p> <p>What do you need to find?</p> <p>I need to find the number of teams that brought an extra player.</p>																												
<p>Step 2 Plan</p>	<p>Make a plan.</p> <p>I will use logical reasoning to solve the problem. I can write an expression to help me find the answer.</p>																												
<p>Step 3 Solve</p>	<p>Carry out your plan.</p> <p>I will use the facts I know to write an expression.</p> <div style="text-align: center;"> <table style="margin: auto;"> <tr> <td style="border: 1px solid black; padding: 5px;">number of teams</td> <td style="border: 1px solid black; padding: 5px;">players per team</td> <td style="border: 1px solid black; padding: 5px;">extra players</td> <td style="border: 1px solid black; padding: 5px;">total players</td> </tr> <tr> <td style="text-align: center;">↓</td> <td style="text-align: center;">↓</td> <td style="text-align: center;">↓</td> <td style="text-align: center;">↓</td> </tr> <tr> <td style="text-align: center;">6</td> <td style="text-align: center;">6</td> <td style="text-align: center;">p</td> <td style="text-align: center;">39</td> </tr> <tr> <td colspan="2" style="text-align: center;">6×6</td> <td style="text-align: center;">$+$</td> <td style="text-align: center;">$=$</td> </tr> <tr> <td colspan="2" style="text-align: center;">36</td> <td style="text-align: center;">$+$</td> <td style="text-align: center;">39</td> </tr> <tr> <td colspan="2" style="text-align: center;">36</td> <td style="text-align: center;">$+$</td> <td style="text-align: center;"><u>3</u></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">$=$</td> <td style="text-align: center;">39</td> </tr> </table> </div> <p>So, 3 teams each brought 1 extra player.</p>	number of teams	players per team	extra players	total players	↓	↓	↓	↓	6	6	p	39	6×6		$+$	$=$	36		$+$	39	36		$+$	<u>3</u>			$=$	39
number of teams	players per team	extra players	total players																										
↓	↓	↓	↓																										
6	6	p	39																										
6×6		$+$	$=$																										
36		$+$	39																										
36		$+$	<u>3</u>																										
		$=$	39																										
<p>Step 4 Check</p>	<p>Make sure your answer is reasonable.</p> <p>I will use inverse operations to check my answer. $39 - 3 = 36$; $36 \div 6 = 6$. So, the answer makes sense.</p>																												

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Problem Solving: Use Logical Reasoning (continued)

Use logical reasoning to solve.

1. Maya and three friends are going to see a movie. Each ticket costs \$6. Each person also bought a small bag of popcorn. If the friends spend a total of \$32, how much does each bag of popcorn cost?

2. Cathy, Leon, and Elisa are eating lunch. One has a ham sandwich, one has a peanut butter sandwich, and one has a cheese sandwich. Leon and Cathy do not eat meat. Cathy is allergic to peanuts. Which sandwich does each person eat?

3. Fire Station 5 has twice as many fire trucks as Fire Station 9. There are a total of 18 fire trucks. How many fire trucks does Fire Station 9 have?

4. Miss Pham has \$15 to buy pencils and rulers for her class. The pencils cost \$1 each and the rulers cost \$2 each. If she buys 4 rulers , how many pencils can she buy?

5. Wesley and Sonia have 15 library books altogether. Sonia has 3 fewer books than Wesley. How many books does each have?
