



### EXAMPLE 4 TAKS REASONING: Multi-Step Problem

**MOUNTAIN BIKING** The last time you and 3 friends went to a mountain bike park, you had a coupon for \$10 off and paid \$17 for 4 tickets. What is the regular price of 4 tickets? If you pay the regular price this time and share it equally, how much does each person pay?



#### Solution

**STEP 1** Write a verbal model. Let  $p$  be the regular price of 4 tickets. Write an equation.

Regular price	-	Amount of coupon	=	Amount paid
↓		↓		↓
$p$	-	10	=	17

**STEP 2** Use mental math to solve the equation  $p - 10 = 17$ . Think: 10 less than what number is 17? Because  $27 - 10 = 17$ , the solution is 27.

▶ The regular price for 4 tickets is \$27.

**STEP 3** Find the cost per person:  $\frac{\$27}{4 \text{ people}} = \$6.75$  per person

▶ Each person pays \$6.75.

### EXAMPLE 5 Write and check a solution of an inequality

**BASKETBALL** A basketball player scored 351 points last year. If the player plays 18 games this year, will an average of 20 points per game be enough to beat last year's total?

#### Solution

**STEP 1** Write a verbal model. Let  $p$  be the average number of points per game. Write an inequality.

Number of games	·	Points per game	>	Total points last year
↓		↓		↓
18	·	$p$	>	351

**STEP 2** Check that 20 is a solution of the inequality  $18p > 351$ . Because  $18(20) = 360$  and  $360 > 351$ , 20 is a solution. ✓

▶ An average of 20 points per game will be enough.

#### USE UNIT ANALYSIS

Unit analysis shows that  $\text{games} \cdot \frac{\text{points}}{\text{games}} = \text{points}$ , so the inequality is reasonable.

### GUIDED PRACTICE for Examples 4 and 5

8. **WHAT IF?** In Example 4, suppose that the price of 4 tickets with a half-off coupon is \$15. What is each person's share if you pay full price?
9. **WHAT IF?** In Example 5, suppose that the player plays 16 games. Would an average of 22 points per game be enough to beat last year's total?