- Solving Linear Systems Using Linear Combinations
- Solving Linear Systems Using Any Method

Applying the Linear Combinations Method

Let's use the linear combinations method to solve a problem.

HABITS OF MIND

- · Model with mathematics.
- Use appropriate tools strategically.

Let It Snow Resort offers two winter specials: the Get-Away Special and the Extended Stay Special. The Get-Away Special offers two nights of lodging and four meals for \$270. The Extended Stay Special offers three nights of lodging and eight meals for \$435. Determine what Let It Snow charges per night of lodging and per meal.

Write the system of linear questions that represents the problem situation. Let n represent the cost for one night of lodging at the resort and m represent the cost for each meal. Write the equations in standard form.

2 How are these equations the same? How are these equations different?

3 Solve the system comparing the two winter specials.



4 Interpret the solution of the linear system in the problem situation.

5 Check your solution algebraically.

6 Is the Extended Stay Special the better deal? Explain why or why not.

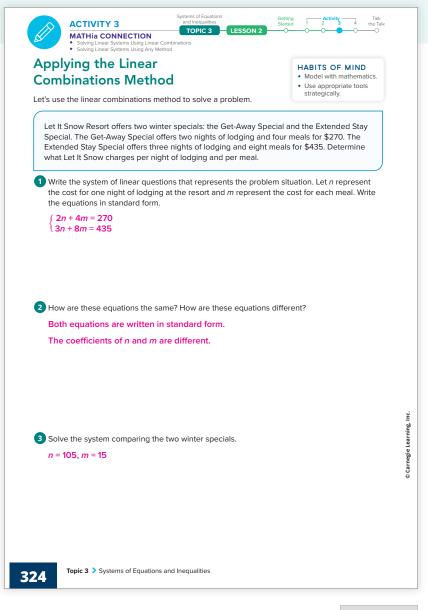
SUMMARY You can represent a situation with a system of equations, solve it using the linear combinations method, and interpret the solution in context.

Chunking the Activity

- Read and discuss the situation
- Group students to complete 1
- ▶ Check-in and share
- Group students to complete 2 6
- **▶** Share and summarize

Student Look-Fors

A classroom environment where students are mindful of classmates' perspectives, cultures, and experiences.



Questions to Support Discourse		TYPE
3	Is it more efficient to eliminate a specific variable? Why?How did you solve for the first variable? The second variable?	Probing

ACTIVITY 3 Continued

4 Interpret the solution of the linear system in the problem situation.

Let It Snow Resort charges \$105 per night of lodging and \$15 per meal.

5 Check your solution algebraically.

270 = 270

2n + 2m = 270 3n + 8m = 435 2(105) + 4(15) = 270 3(105) + 8(15) = 435210 + 60 = 270 315 + 120 = 435

6 Is the Extended Stay Special the better deal? Explain why or why not.

No. Let It Snow Resort charges the same amount for meals and lodging for both specials.

435 = 435

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Lesson 2 > The Elimination Round

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NOTES

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