Unit 2, Lesson 4

Solutions in Context

Let's use equations to describe situations.

4.1 Notice and Wonder: Equations

What do you notice? What do you wonder?

- $2x + 3y = 12$
- $(0, 4)$ and $(6, 0)$

4.2 Raffles and Pins

1. For a fundraiser, a school club is selling raffle tickets for $2 each and school logo pins for $1.50 each. What is the cost of:
   a. 3 tickets?
   b. 5 tickets?
   c. x tickets?
   d. 2 pins?
   e. 6 pins?
   f. y pins?
   g. 10 tickets and 8 pins?
   h. 7 tickets and 5 pins?
   i. x tickets and y pins?
2. Lin bought some tickets and some pins, and paid $22.
   a. Write an equation representing this situation.

   b. What are some combinations of tickets and pins that Lin might have bought?

4.3 Row Game: Solving Equations

Partner A completes only column A, and partner B completes only column B. Your answers for each problem should match. Work on one problem at a time, and check whether your answer matches your partner's before moving on. If you don't get the same answer, work together to find your mistake.

Column A:

1. Lin's teacher has a daughter that is $\frac{1}{3}$ of his age. Write an expression to represent the daughter's age. Let z represent the teacher's age, in years.
2. Han wants to save $40. He hasn't met his goal yet. Write an expression to represent how far Han is from his goal, in dollars. Let q represent the amount of money, in dollars, he's saved so far.
3. Priya has some money to spend at a fair. It costs $6 to get in and $0.50 per ride ticket. Write an expression to represent how much Priya spends at the fair, in dollars. Let x represent the number of ride tickets Priya buys.
4. Diego is inviting some friends over to clean their treehouse. He is buying soap and window cleaner. Soap costs 6 cents per ounce and window cleaner costs 17 cents per ounce. Write an expression to represent the total cost of soap and window cleaner, in cents. Let j represent how many ounces of soap Diego buys and k represent how many ounces of window cleaner he buys.

Column B:

1. Jada leaves the beach with some seashells. One out of every three of the shells turns out to contain a hermit crab. Write an expression to represent the number of hermit crabs Jada found. Let z represent the total number of seashells she collected.
2. Tyler started the school year with 40 pencils, but he's lost some. Write an expression to represent how many pencils Tyler has left. Let q represent the number of pencils he's lost so far.
3. When Clare bought her plant, it was 6 inches tall. Each week, it's been growing $\frac{1}{2}$ of an inch. Write an expression to represent how tall Clare's plant is, in inches. Let x represent the number of weeks since Clare bought her plant.
4. Mai is packing care packages. She is putting in boxes of candles that weigh 6 ounces each and paperback books that weigh 17 ounces each. Write an expression to represent the total weight of a care package, in ounces. Let j represent the number of boxes of candles and k represent the number of books.