

Performance Tasks

Chapter 2

TASK 1

Suppose that you are the teacher. Look at the three equations below and provide a detailed description of how to solve each equation. Be sure to include in your discussion the different steps needed to solve each equation, and how the steps differ.

- a. $2x + 7 = 24$ b. $\frac{w}{4} - 2 = 12$ c. $\frac{5k + 3}{4} = -10$
- d. After you finish your discussion about the three equations above, you are anxious to show the class how these types of equations can model real-world situations. Write a description of two real-world situations: one that can be modeled by a one-step equation and one that can be modeled by a two-step equation. Write the equations and solve them.

TASK 2

The relationship between the temperature in degrees Fahrenheit, F , and the temperature in degrees Celsius, C , is represented by the formula $F = \frac{9}{5}C + 32$.

- a. Solve the formula for C to express the Celsius temperature in terms of the Fahrenheit temperature.
- b. A classmate tells you that there is one Fahrenheit temperature that is the same as the Celsius temperature. Is your classmate correct? If so, what is the temperature? If your classmate is incorrect, explain why.

Performance Tasks (continued)

Chapter 2

TASK 3

Solve one proportion using properties of equality. Solve the other using cross products. Explain the steps you used in each process.

a. $\frac{x}{21} = \frac{4}{7}$

$$\frac{7}{4} = \frac{21}{x}$$

- b. Create a proportion that models a real-world situation. Be sure to define the variable, relate it to a model, write the equation, and solve the proportion.

TASK 4

Michael has made a scale drawing of his classroom. The scale for his drawing is 0.5 in. : 3 ft.

- The length of the classroom is 30 ft. The length of the room on the scale drawing is 6 in. Is this correct? Explain why or why not.
- One of the student tables is 6 ft long. How long should it be on the drawing? Explain how you got your answer.
- Write your own problem concerning Michael's drawing. Solve and explain your answers.