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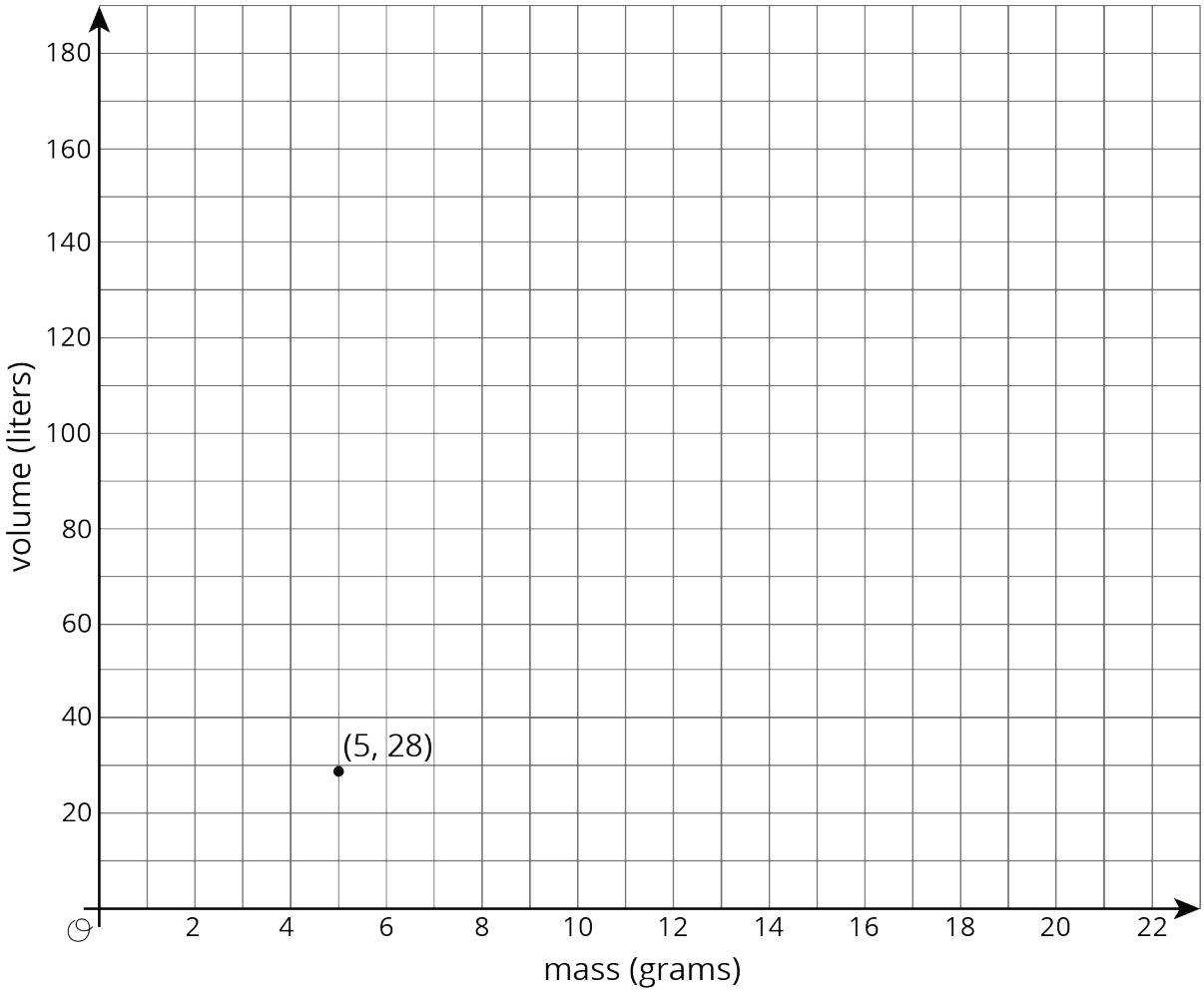
Unit 6, Lesson 7: Reasoning about Solving Equations (Part 1)

1. There is a proportional relationship between the volume of a sample of helium in liters and the mass of that sample in grams. If the mass of a sample is 5 grams, its volume is 28 liters. (5, 28) is shown on the graph below.



a. What is the constant of proportionality in this relationship?

b. In this situation, what is the meaning of the number you found in part a?

c. Add at least three more points to the graph above, and label with their coordinates.

d. Write an equation that shows the relationship between the mass of a sample of helium and its

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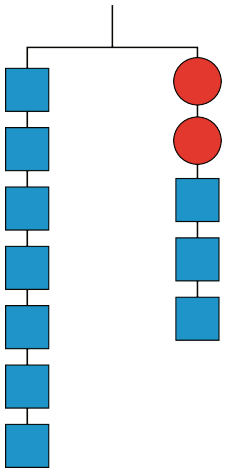
volume. Use m for mass and v for volume.

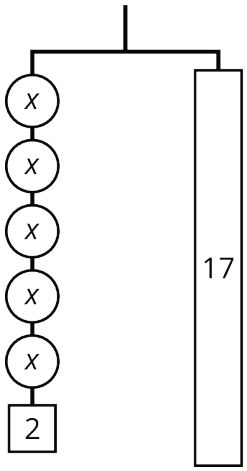
(from Unit 2, Lesson 11)

2. Explain how the parts of the balanced hanger compare to the parts of the equation.

$7 = 2x + 3$



3. Here is a hanger:



a. Write an equation to represent the hanger.

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b. Draw more hangers to show each step you would take to find x. Explain your reasoning.

c. Write an equation to describe each hanger you drew. Describe how each equation matches its hanger.