

Additional Practice**Investigation 2****Comparing and Scaling**

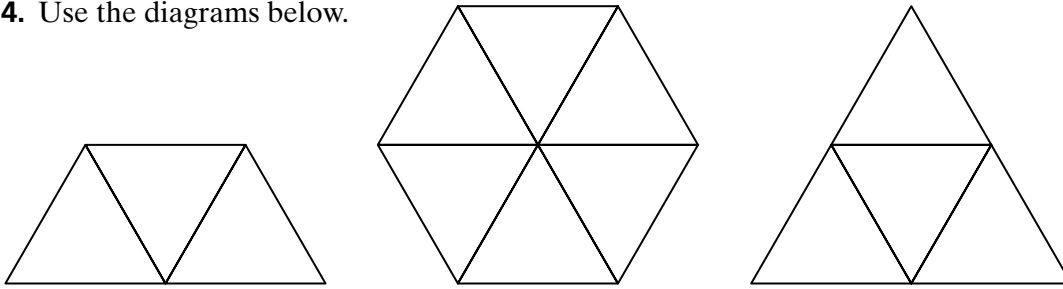
1.
 - a. Bill has a paper route. It takes him 50 minutes to deliver newspapers to his 40 customers. How long will it take Bill to complete his route if he adds 20 more customers in his neighborhood? Explain.
 - b. Only 30 of Bill's 40 customers take the Sunday paper. About how long does it take Bill to deliver his papers on Sundays?
2. A micron is a metric unit of length. There are 1 million (1,000,000) microns in 1 meter.
 - a. How many microns equal 1 centimeter? Explain.
 - b. An object has a length of 2,911 microns. What is the length of the object in centimeters?
 - c. An object has a width of 0.000351 meters. What is the width of the object in microns?
 - d. Which metric unit—meters, centimeters, or microns—do you think is best to use to express the length of your pencil? Explain.
3. Betty and Derek are making punch for a class party. The directions on the liquid punch mix say to use 3 cups of mix for every 7 cups of water. Betty and Derek want to make enough punch so that each of the 25 people at the party can have 2 cups.
 - a. How many cups of punch mix will Betty and Derek need to use? Explain.
 - b. How many cups of water will Betty and Derek need to use?
 - c. Betty and Derek want to put the punch in bowls that hold 20 cups each. How many bowls will they need?

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4. Use the diagrams below.



- a. What is the ratio of the area of the trapezoid to the area of the hexagon? Explain your reasoning.

 - b. What is the ratio of the area of the large triangle to the area of the hexagon? Explain.

 - c. If the area of the hexagon is 24 square units, what is the area of the trapezoid? What is the area of the large triangle? Explain.

 - d. If the area of the trapezoid is 4 square units, what is the area of the large triangle?
5. Brice found three recipes for blueberry syrup. Of the ingredients, the ingredients only differed on the amount of blueberries and sugar:
- Classic Blueberry syrup: 6 cups blueberries and 2 cups sugar
 - Homestyle Blueberry syrup: 2 cups blueberries and $\frac{1}{2}$ cup sugar
 - Country Blueberry syrup: 20 cups blueberries and 7 cups sugar
- Which recipe will be the sweetest? Explain.

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6. Gabrielle, Hannah, and Gavin decide to share 12 cookies between them, so each of them gets 4. When another friend Blake joins them, they decide to share the 12 cookies, so that each person gets 3.
- a. Use a ratio to compare numbers of people before and after Blake arrives.

 - b. Use a ratio to compare the number of cookies in each share before and after Blake arrives.

 - c. What do you notice about the ratios? Will this always be true?
7. At Louis Armstrong School, Ms. Turini's homeroom has 18 boys and 12 girls. Use ratios to describe the gender distribution of this class, by answering parts (a)–(d) in at least two equivalent ways.
- a. What is the ratio of boys to girls in Ms. Turini's homeroom?

 - b. What is the ratio of girls to boys?

 - c. What is the ratio of boys to students in the class?

 - d. What is the ratio of students in the class to boys?