Module 1 Lesson 11 Independent Practice

Name:_____

1. Determine the quotient: $2\frac{4}{7} \div 1\frac{3}{6}$.

2. One lap around a dirt track is $\frac{1}{3}$ mile. It takes Bryce $\frac{1}{9}$ hour to ride one lap. What is Bryce's unit rate, in miles, around the track?

3. Mr. Gengel wants to make a shelf with boards that are $1\frac{1}{3}$ feet long. If he has an 18-foot board, how many pieces can he cut from the big board?

4. The local bakery uses 1.75 cups of flour in each batch of cookies. The bakery used 5.25 cups of flour this morning.
   a. How many batches of cookies did the bakery make?

   b. If there are 5 dozen cookies in each batch, how many cookies did the bakery make?

5. Jason eats 10 ounces of candy in 5 days.
   a. How many pounds does he eat per day? (Recall: 16 ounces = 1 pound)

   b. How long will it take Jason to eat 1 pound of candy?

Module 1 Lesson 13 Independent Practice

Name:_____

1. Students in 6 classes, displayed below, ate the same ratio of cheese pizza slices to pepperoni pizza slices. Complete the following table, which represents the number of slices of pizza students in each class ate.

Slices of Cheese Pizza	Slices of Pepperoni Pizza	Total Slices of Pizza
		7
6	15	
8		
	$13\frac{3}{4}$	
$3\frac{1}{3}$		
		$2\frac{1}{10}$

2. To make green paint, students mixed yellow paint with blue paint. The table below shows how many yellow and blue drops from a dropper several students used to make the same shade of green paint.

   a. Complete the table.

Yellow (Y) (mL)	Blue (B) (mL)	Total (mL)
$3\frac{1}{2}$	$5\frac{1}{4}$	
		5
	$6\frac{3}{4}$	
$6\frac{1}{2}$		

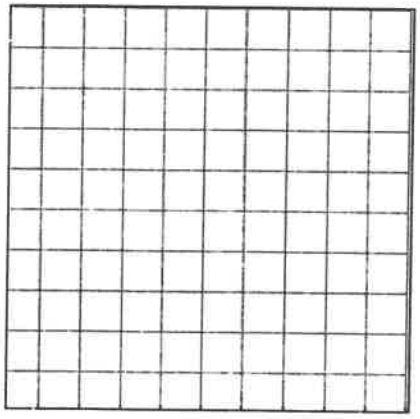
   b. Write an equation to represent the relationship between the amount of yellow paint and blue paint.

Module 1 Lesson 15 Independent Practice

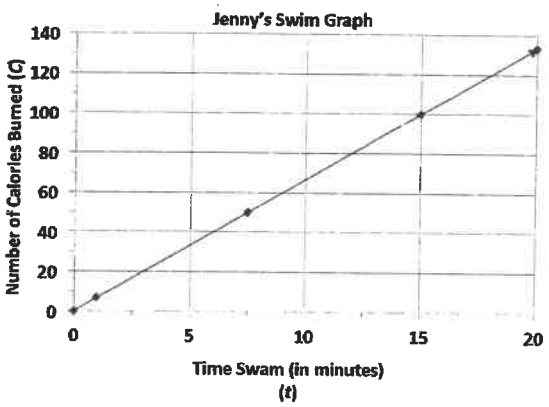
Name:_____

1. Students are responsible for providing snacks and drinks for the Junior Beta Club Induction Reception. Susan and Myra were asked to provide the punch for the 100 students and family members who will attend the event. The chart below will help Susan and Myra determine the proportion of cranberry juice to sparkling water needed to make the punch. Complete the chart, graph the data, and write the equation that models this proportional relationship.

Sparkling Water (S, in cups)	Cranberry Juice (C, in cups)
1	$\frac{4}{5}$
5	4
8	
12	$9\frac{3}{5}$
	40
100	



2. Jenny is a member of a summer swim team.
   a. Using the graph, determine how many calories she burns in one minute.
   b. Use the graph to determine the equation that models the number of calories Jenny burns within a certain number of minutes.
   c. How long will it take her to burn off a 480-calorie smoothie that she had for breakfast?



IP - Lesson 16

Lesson Summary

SCALE DRAWING AND SCALE FACTOR: For two figures in the plane, S and S', S' is said to be a *scale drawing* of S with *scale factor* r if there is a one-to-one correspondence between S and S' so that, under the pairing of this one-to-one correspondence, the distance $|PQ|$ between any two points P and Q of S is related to the distance $|P'Q'|$ between corresponding points P' and Q' of S' by $|P'Q'| = r|PQ|$.

A scale drawing is an *enlargement* or *magnification* of another figure if the scale drawing is larger than the original drawing, that is, if $r > 1$.

A scale drawing is a *reduction* of another figure if the scale drawing is smaller than the original drawing, that is, if $0 < r < 1$.

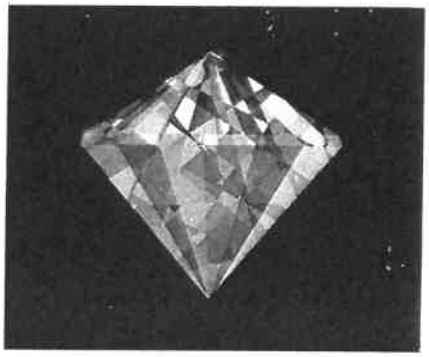
Problem Set

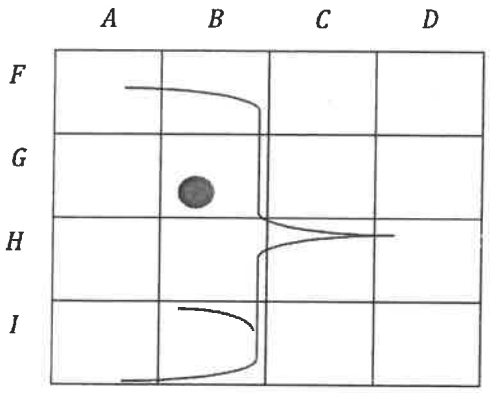
For Problems 1–3, identify if the scale drawing is a reduction or an enlargement of the actual picture.

1. _____

a. Actual Picture

b. Scale Drawing





a. On the grid, where is the eye?

b. What is located in DH?

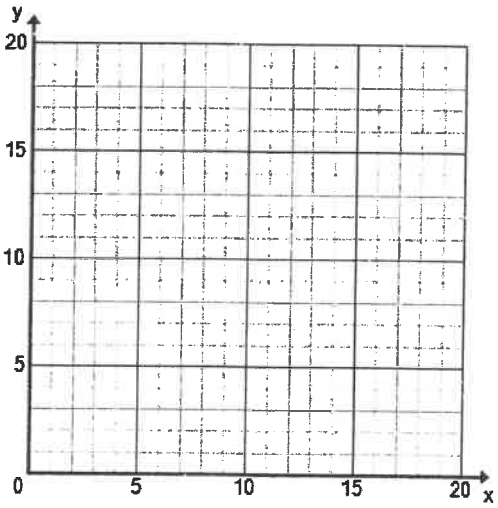
c. In what part of the square BI is the chin located?

5. Use the blank graph provided to plot the points and decide if the rectangular cakes are scale drawings of each other.

Cake 1: (5,3), (5,5), (11,3), (11, 5)

Cake 2: (1,6), (1, 12),(13,12), (13, 6)

How do you know?



Problem Set IP Lesson 17

1. Giovanni went to Los Angeles, California, for the summer to visit his cousins. He used a map of bus routes to get from the airport to his cousin's house. The distance from the airport to his cousin's house is 56 km. On his map, the distance is 4 cm. What is the scale factor?

2. Nicole is running for school president. Her best friend designed her campaign poster, which measured 3 feet by 2 feet. Nicole liked the poster so much, she reproduced the artwork on rectangular buttons that measured 2 inches by $1\frac{1}{3}$ inches. What is the scale factor?

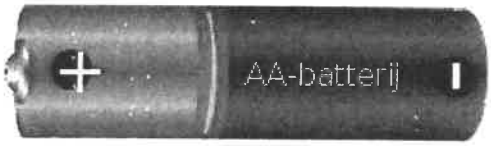
3. Find the scale factor using the given scale drawings and measurements below.

   Scale Factor: _____

   Actual Picture

   3 cm

   Scale Drawing

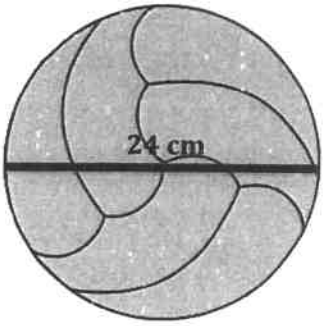


   5 cm

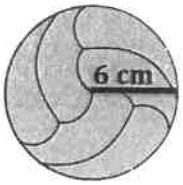
4. Find the scale factor using the given scale drawings and measurements below.

   Scale Factor: _____

   Actual Picture



   Scale Drawing



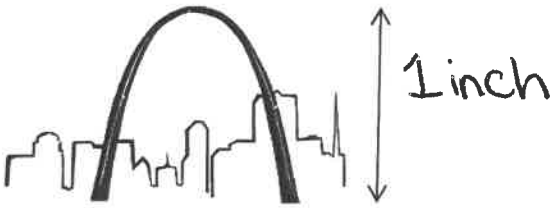
Problem Set

IP - Lesson 18

1. A toy company is redesigning its packaging for model cars. The graphic design team needs to take the old image shown below and resize it so that $\frac{1}{2}$ inch on the old packaging represents $\frac{1}{3}$ inch on the new package. Find the length of the image on the new package.

   Car image length on old packaging measures 2 inches.

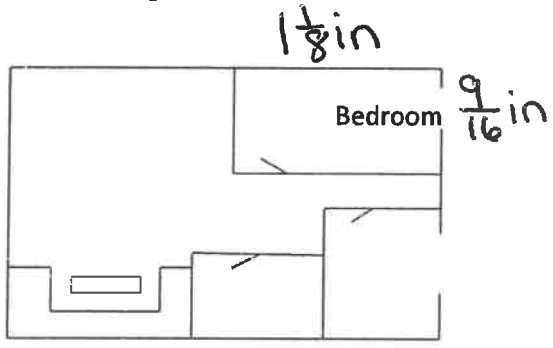
2. The city of St. Louis is creating a welcome sign on a billboard for visitors to see as they enter the city. The following picture needs to be enlarged so that $\frac{1}{2}$ inch represents 7 feet on the actual billboard. Will it fit on a billboard that measures 14 feet in height?



6. The sponsor of a 5K run/walk for charity wishes to create a stamp of its billboard to commemorate the event. If the sponsor uses a scale where 1 inch represents 4 feet, and the billboard is a rectangle with a width of 14 feet and a length of 48 feet, what will be the shape and size of the stamp?

7. Danielle is creating a scale drawing of her room. The rectangular room measures $20\frac{1}{2}$ ft. by 25 ft. If her drawing uses the scale where 1 inch represents 2 feet of the actual room, will her drawing fit on an $8\frac{1}{2}$ in. by 11 in. piece of paper?

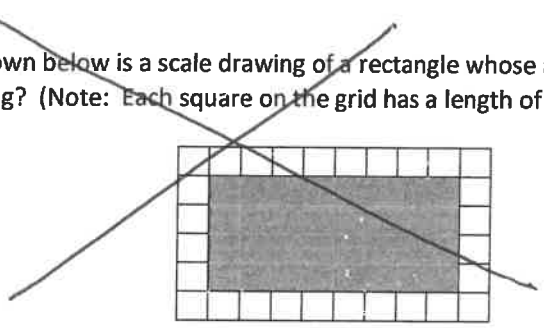
8. A model of an apartment is shown below where $\frac{1}{4}$ inch represents 4 feet in the actual apartment. Use a ruler to measure the drawing and find the actual length and width of the bedroom.



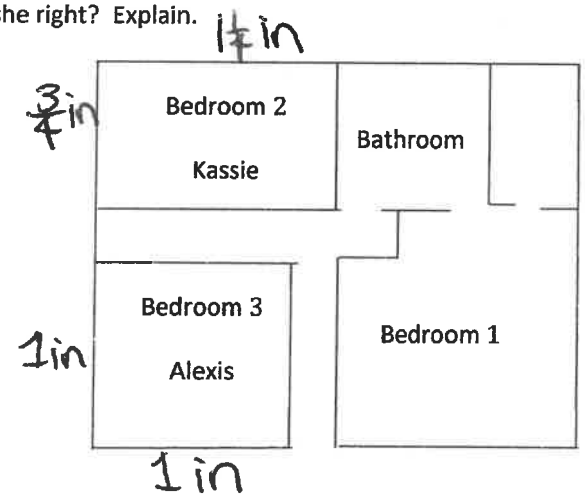
Module 1 Lesson 19 Independent Practice

Name:_____

1. The shaded rectangle shown below is a scale drawing of a rectangle whose area is 288 square feet. What is the scale factor of the drawing? (Note: Each square on the grid has a length of 1 unit.)



2. A floor plan for a home is shown below where $\frac{1}{2}$ inch corresponds to 6 feet of the actual home. Bedroom 2 belongs to 13-year-old Kassie, and Bedroom 3 belongs to 9-year-old Alexis. Kassie claims that her younger sister, Alexis, got the bigger bedroom. Is she right? Explain.



3. On the mall floor plan, $\frac{1}{4}$ inch represents 3 feet in the actual store.
   a. Find the actual area of Store 1 and Store 2.
   b. In the center of the atrium, there is a large circular water feature that has an area of $\left(\frac{9}{64}\right)\pi$ square inches on the drawing. Find the actual area in square feet.