



# Comprehensive Curriculum

Revised 2008

## Grade 7 Mathematics



Louisiana Department of  
**EDUCATION**

Paul G. Pastorek, State Superintendent of Education



*Unit 1, Activity 1, Numbers*

One set of cards for every four students.

0

2

4

6

8

1

3

5

7

9

## *Unit 1, Activity 2, Fraction Comparisons*

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. Using chart paper, complete the following situation. Be prepared to share your work in 20 minutes.

a. Write two fractions that are equivalent. Explain how you know that they are equivalent.

b. Look at the fractions you wrote in part a. Write two other fractions, one that is equivalent to your first fraction and one that is equivalent to the second fraction.

c. Are the four fractions you have written equivalent to each other? Why or why not?

2. Using chart paper, complete the following situation. Be prepared to share your work in 20 minutes.

a. Write two fractions that are not equivalent. Tell which is larger, and explain how you know.

b. Look at the fraction you wrote in part a. Write two other fractions, one that is **not** equivalent to your first fraction and another one that is **not** equivalent to your second fraction.

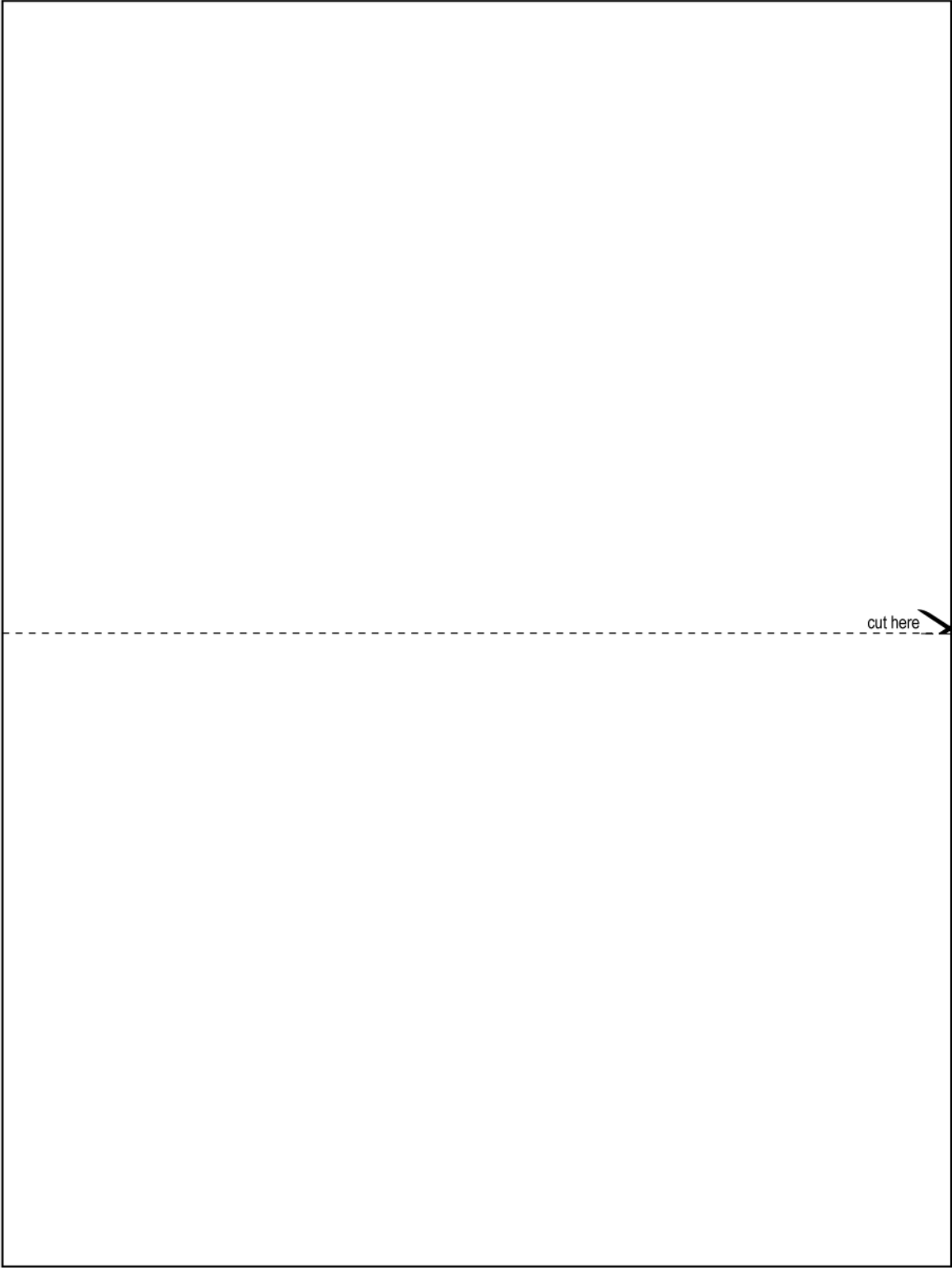
c. Order the four fractions you have written from smallest to largest, and explain how you know the order is correct.

d. Write a mathematical statement using the symbols  $<$ ,  $\leq$ ,  $=$ ,  $\geq$ ,  $>$  and your fractions.

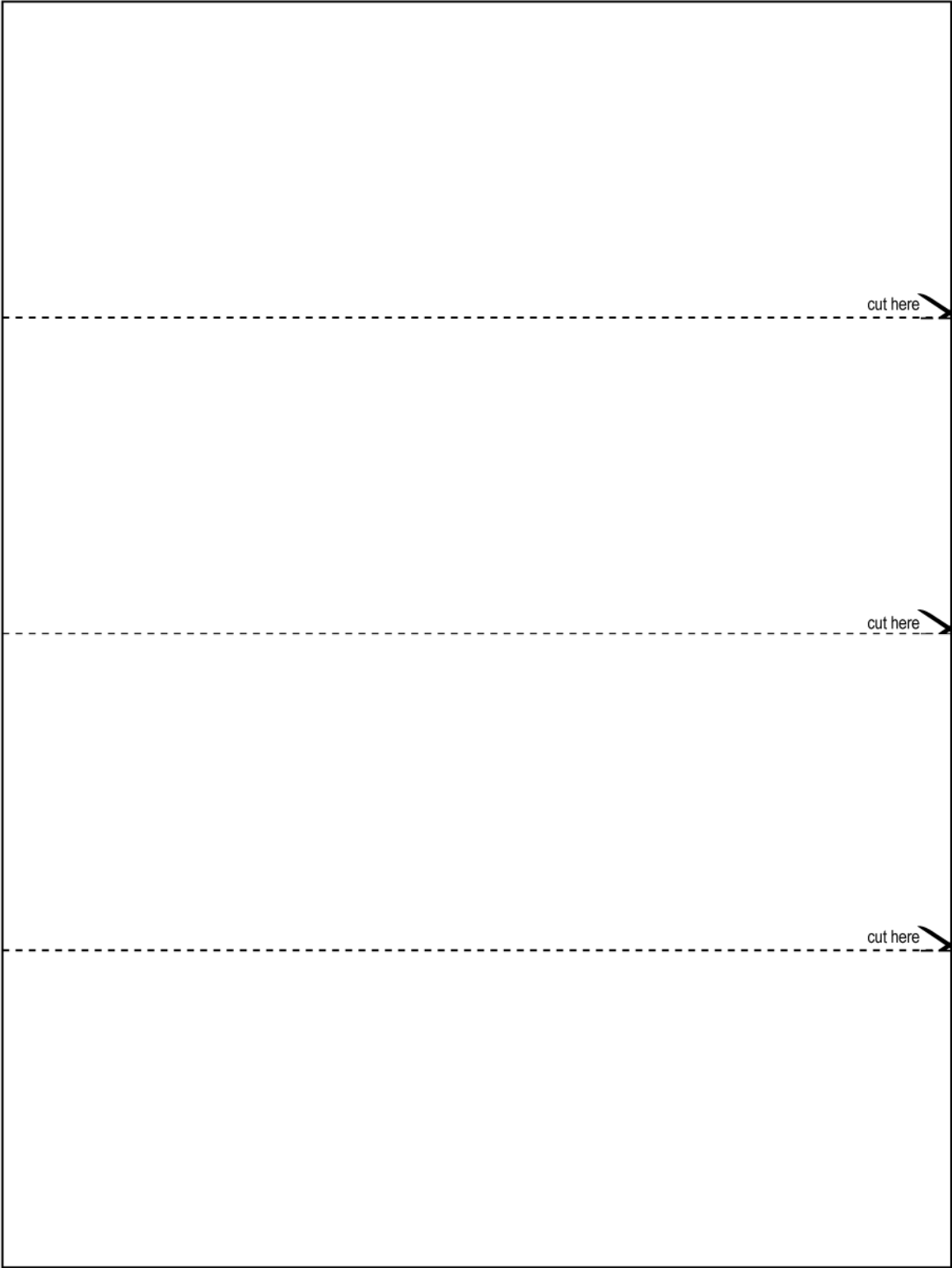
*Unit 1, Activity 4, Fraction Pieces 1*



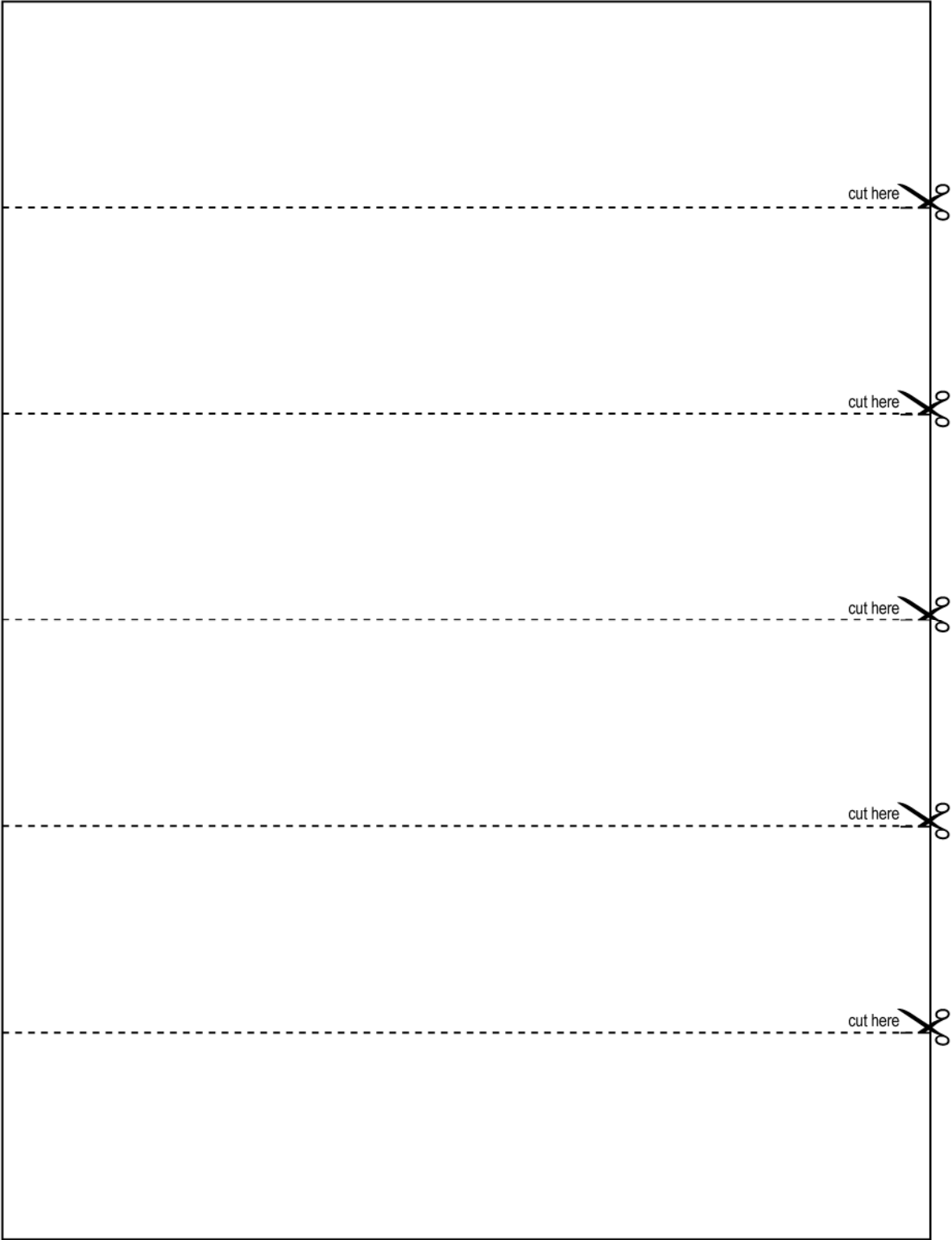
*Unit 1, Activity 4, Fraction Pieces 2*



*Unit 1, Activity 4, Fraction Pieces 3*



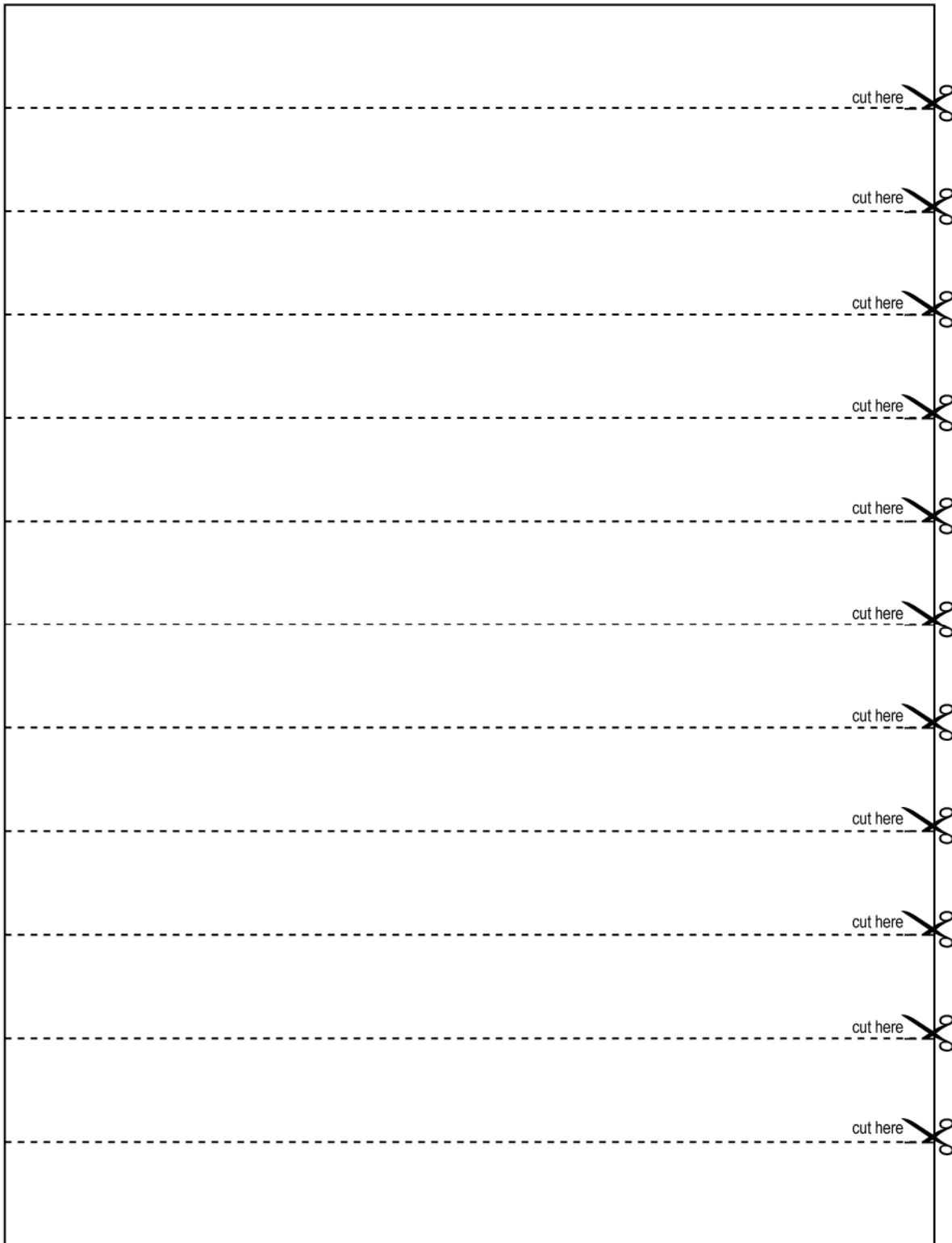
*Unit 1, Activity 4, Fraction Pieces 4*



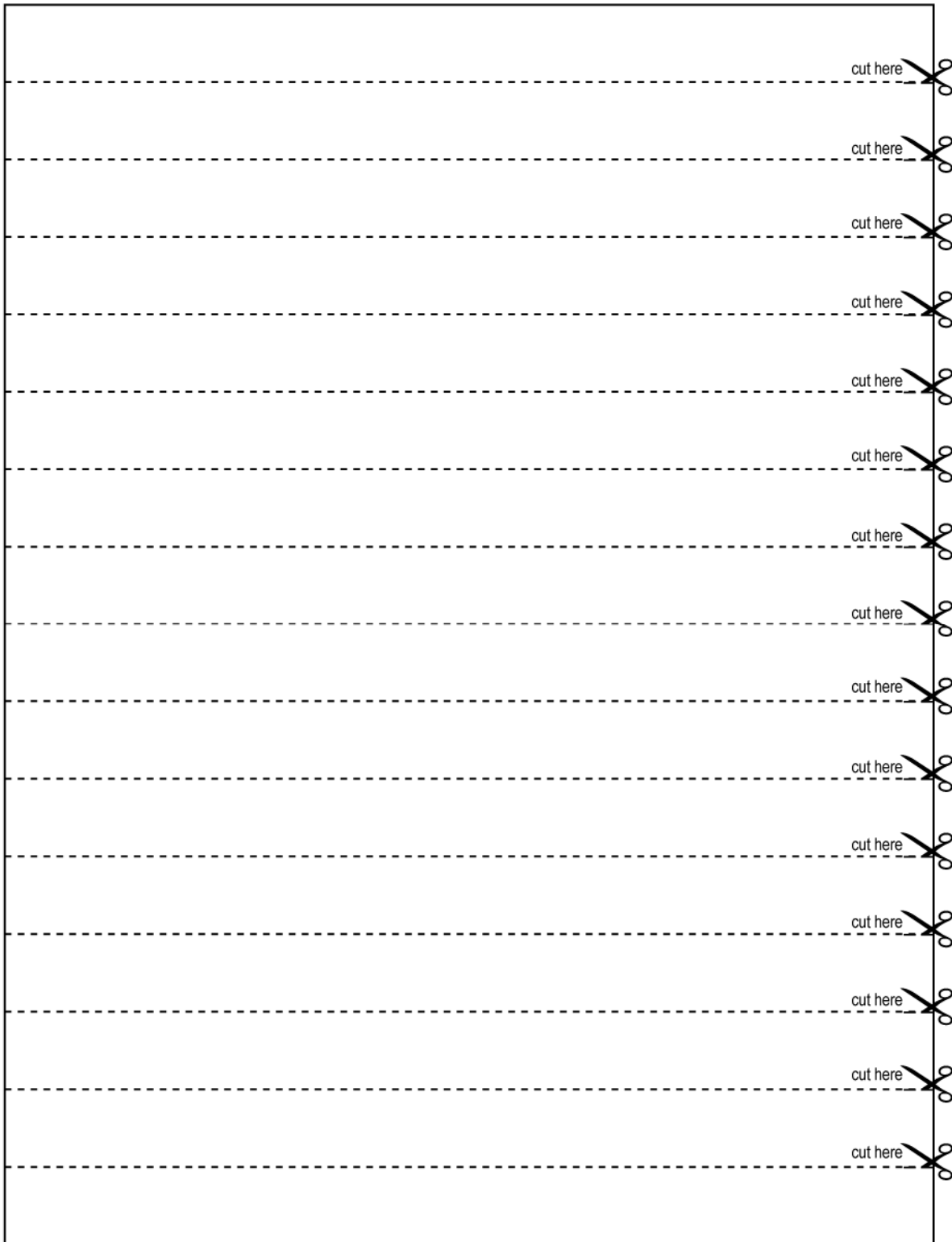
*Unit 1, Activity 4, Fraction Pieces 5*



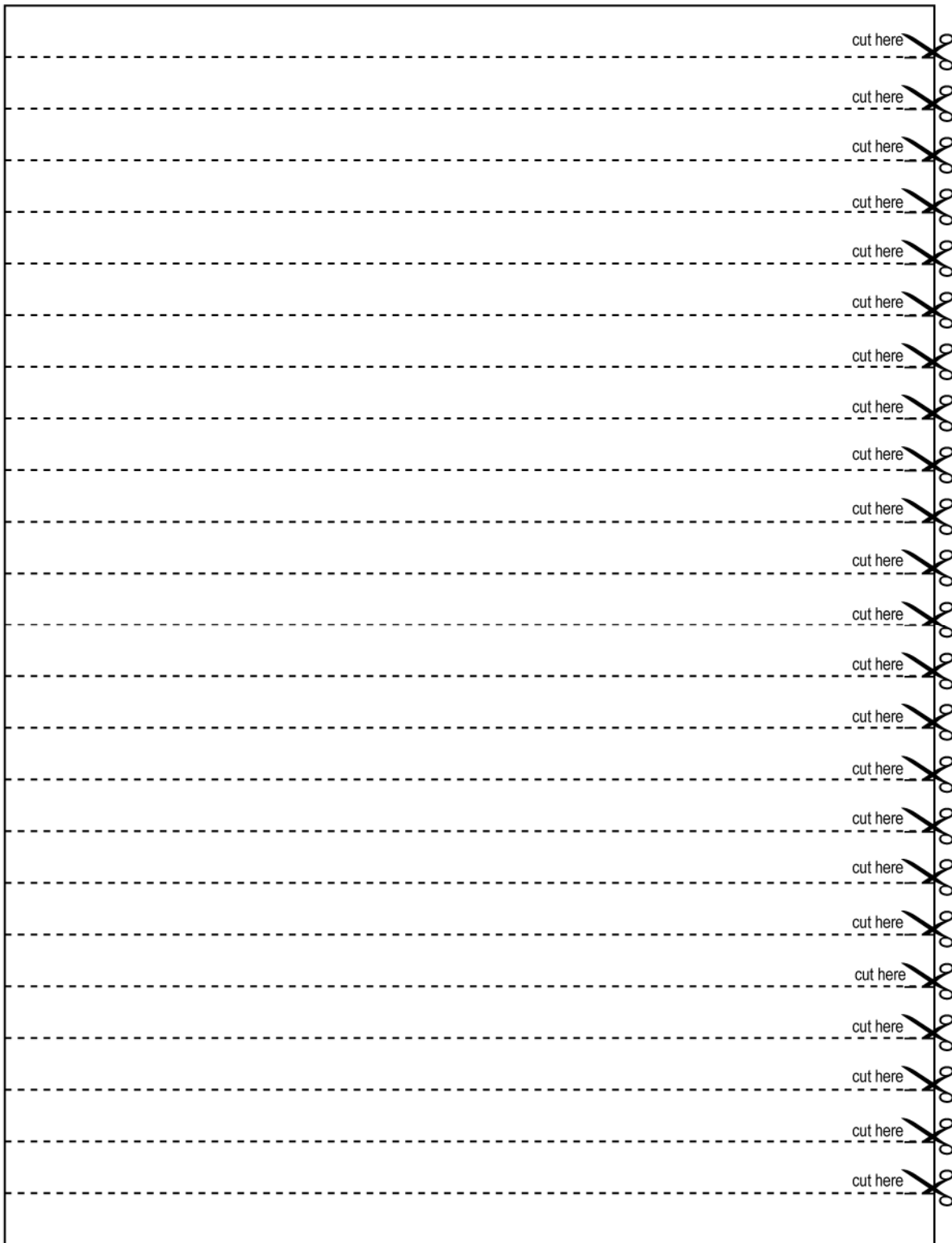
*Unit 1, Activity 4, Fraction Pieces 6*



*Unit 1, Activity 4, Fraction Pieces 7*



*Unit 1, Activity 4, Fraction Pieces 8*



**Unit 1, Activity 5, Greater Than, Less Than, or Equal To**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

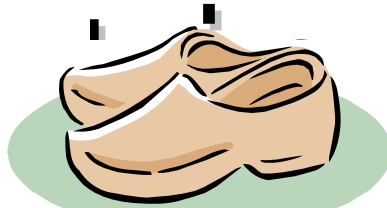
	$> \frac{1}{2}$	$\leq \frac{1}{2}$	$= \frac{1}{2}$	$> 20\%$	$< 0.75$
0.15		✓			✓

Enter the values provided to you in the left column. Then put a ✓ mark in the box if the value in the left column and the information in the top row make a true statement. In the example, 0.15 is less than  $\frac{1}{2}$  so the statement  $0.15 \leq \frac{1}{2}$  is a true statement.

# B's Shoe



Ballet Slippers  
\$35



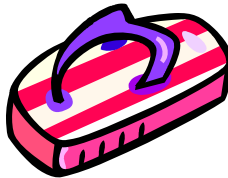
Clogs  
\$16.99



\$74.99



\$69.99



Flip Flops  
\$10.99



Cleats  
\$39.99



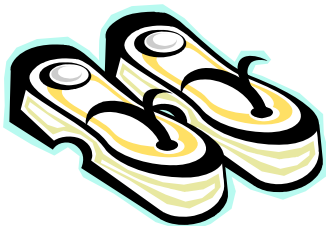
Jr. Fashion  
\$24.95



\$54



\$39.99



\$17.95



Cowboy Boots  
\$129



\$ 84.65

### Unit 1, Activity 10 Tipping at a Restaurant

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. Kimberly works at a local restaurant. Last Wednesday night, she waited on three tables between 6:00 p.m. and 7:00 p.m. In the chart, you will find the total bill for each table. Estimate Kimberly's tip if the patrons leave a 10%, 15%, or 20% tip.

<b>Table 1</b> <b>Total Bill = \$19.83</b>	<b>Estimate</b>	<b>Calculate</b>	<b>Was the estimate reasonable?</b>	<b>Explain</b>
<b>10%</b>			yes no	
<b>15%</b>			yes no	
<b>20%</b>			yes no	

<b>Table 2</b> <b>Total Bill = \$72.14</b>	<b>Estimate</b>	<b>Calculate</b>	<b>Was the estimate reasonable?</b>	<b>Explain</b>
<b>10%</b>			yes no	
<b>15%</b>			yes no	
<b>20%</b>			yes no	

<b>Table 3</b> <b>Total Bill = \$107.01</b>	<b>Estimate</b>	<b>Calculate</b>	<b>Was the estimate reasonable?</b>	<b>Explain</b>
<b>10%</b>			yes no	
<b>15%</b>			yes no	
<b>20%</b>			yes no	

2. Kimberly is paid \$4/hour plus 100% of her tips. If each table she waited on between 6:00 p.m. and 7:00 p.m. left a 15% tip, how much did Kimberly earn?

3. Kimberly worked a total of 5 hours Wednesday night. In addition to the three tables she waited on earlier, she waited on only one other table. The bill for 16 people was \$242.67. The gentleman who paid the bill left Kimberly a 25% tip. How much did Kimberly earn last Wednesday?

**Unit 1, Activity 10 Tipping at a Restaurant with Answers**

1. Kimberly works at a local restaurant. Last Wednesday night, she waited on three tables between 6:00 p.m. and 7:00 p.m. In the chart, you will find the total bill for each table. Estimate Kimberly's tip if the patrons leave a 10%, 15%, or 20% tip.

Table 1 Total Bill = \$19.83	Estimate	Calculate	Was the estimate reasonable?	Explain
10%	~\$2	\$1.98	yes no	
15%	~\$3	\$2.97	yes no	
20%	~\$4	\$3.97	yes no	

Table 2 Total Bill = \$72.14	Estimate	Calculate	Was the estimate reasonable?	Explain
10%	~\$7	\$7.21	yes no	
15%	~\$10.50	\$10.82	yes no	
20%	~\$14	\$14.43	yes no	

Table 3 Total Bill = \$107.01	Estimate	Calculate	Was the estimate reasonable?	Explain
10%	~\$10	\$10.70	yes no	
15%	~\$15	\$16.05	yes no	
20%	~\$20	\$21.40	yes no	

2. Kimberly is paid \$4/hour plus 100% of her tips. If each table she waited on between 6:00 p.m. and 7:00 p.m. left a 15% tip, how much did Kimberly earn?

$$4 + 2.97 + 10.82 + 16.05 = \$33.84$$

3. Kimberly worked a total of 5 hours Wednesday night. In addition to the three tables she waited on earlier, she waited on only one other table. The bill for 16 people was \$242.67. The gentleman who paid the bill left Kimberly a 25% tip. How much did Kimberly earn last Wednesday?

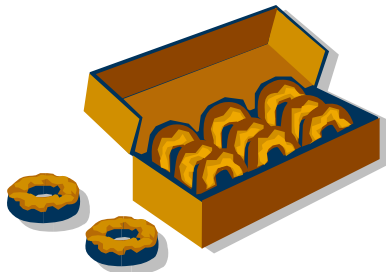
$$(5 \cdot 4) + (2.97 + 10.82 + 16.05) + (.25 \cdot 242.67) = \$110.51$$



# PJ's Grocery



7 bananas for \$1.32  
How much for 1 banana?



Donuts  
\$2.79 / dozen  
How much for 1 donut?



3 kiwi for \$1.19  
How much for 1 kiwi?



Assorted Cheeses  
\$7.29 / lb  
How much per ounce?



17 Apples for \$5.95  
How much for 1 apple?

\$ 1.99

How much per ounce?



Strawberry Jam  
32 oz jar \$3.54  
What is the cost  
per ounce?

## ***Unit 1, Activity 13, What's the Recipe?***

### Chocolate Chip Cookies

#### Ingredients

- 1 cup shortening
- 1 cup brown sugar
- 1 cup sugar
- 2 eggs
- 1 teaspoon vanilla
- 2  $\frac{1}{4}$  cups flour (all purpose)
- 1 teaspoon baking soda
- $\frac{1}{2}$  teaspoon salt
- 1 package chocolate chips

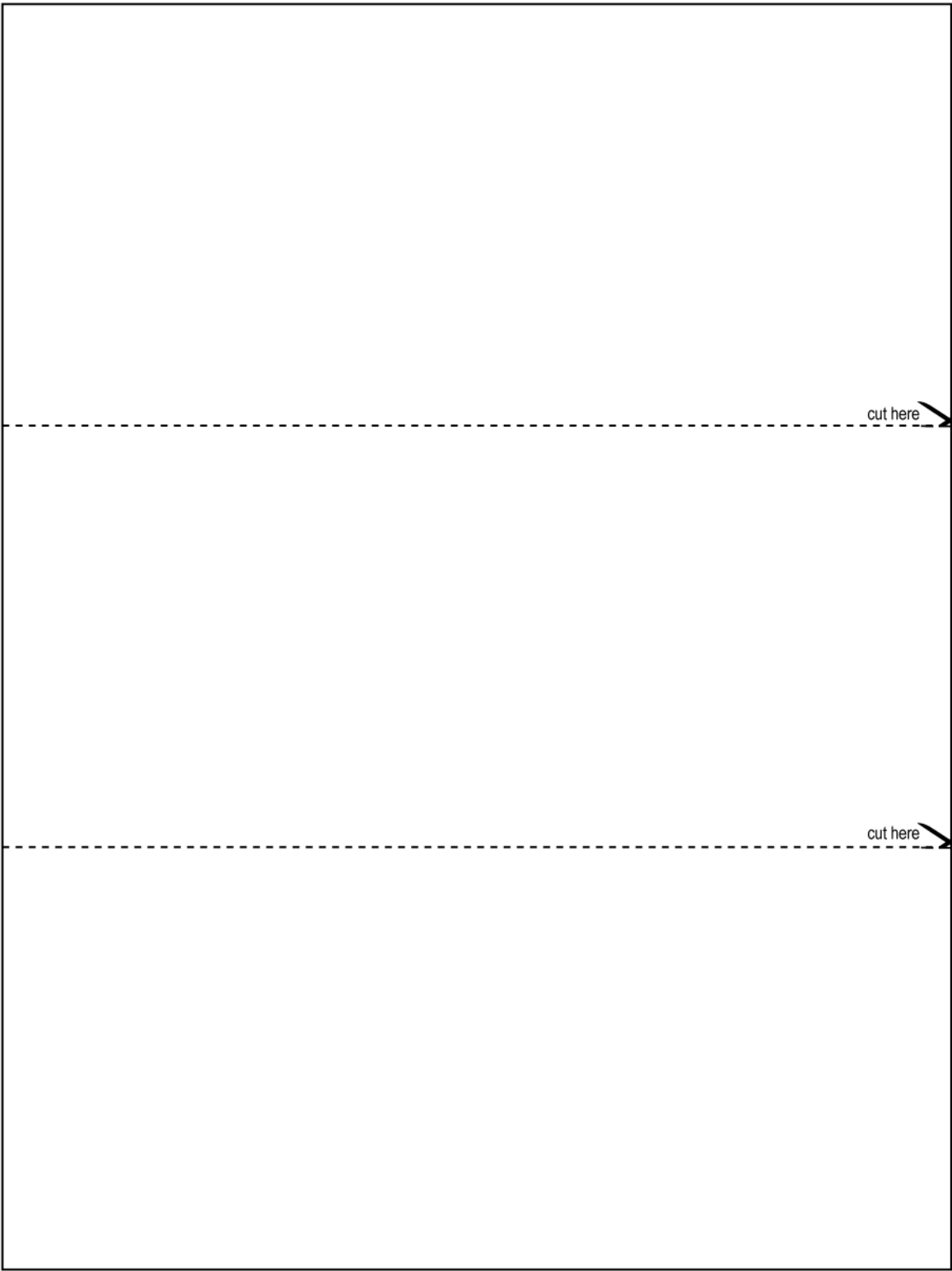
#### Directions

Cream shortening and sugars together, then add eggs and vanilla. Mix and add sifted flour, baking soda and salt. Mix and add chocolate chips. Mix again. Drop by tablespoonfuls onto greased cookie sheet. Bake at 320<sup>o</sup> until golden brown (about 14 minutes). Recipe makes 3 dozen cookies.

### Instant Hot Chocolate Mix

- 1 (25.6 oz.) pkg. instant nonfat milk
  - 1 (6 oz.) jar creamer
  - 2 c. powdered sugar
  - 1 (16 oz.) box instant chocolate drink mix
- Combine in bowl. Store in air tight container. Use within 6 months. Makes 17 cups. Use 3 tablespoons to one cup hot water.

*Unit 2, Activity 1, Fraction Pieces 9*



## Unit 2, Activity 3, Multiplying Fractions

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Hour \_\_\_\_\_

Situations involving multiplication of fractions. Show all work.

1. Each child wanted  $\frac{1}{2}$  of a cookie cake. There were 24 children. How many cookie cakes do we need? Justify your answer.

2. Susan needed to triple a recipe for cookies. The recipe called for  $2\frac{1}{2}$  cups of flour and  $1\frac{3}{4}$  cups sugar. How much of each will she need? Prove your answer. Explain how this problem illustrates multiplication of fractions.

3. Monica's mom said that it takes  $\frac{3}{8}$  of a yard of fabric to make an apron, but it will only take  $\frac{1}{2}$  of that amount to make a kitchen towel. How much fabric will it take to make a kitchen towel? How does this problem illustrate multiplication of fractions? Explain.

4. Brittany wanted to give each of her 5 friends a friendship bracelet. Each bracelet takes  $\frac{2}{5}$  of a bag of beads. How many bags of beads does she need? Explain with diagram and a mathematical sentence.

5. The middle school was selling brownies. Mr. Vincent only had money to buy  $\frac{1}{3}$  of the  $2\frac{1}{4}$  pans of brownies that his wife had baked for the fund-raiser. How much of the pan of brownies was he able to buy? Explain with diagram and a mathematical sentence.

6. At the student council booth, a customer wanted to buy  $\frac{1}{3}$  of a pan that was  $\frac{1}{3}$  full. What fraction of the original pan of brownies did this person want? Explain with diagram and a mathematical sentence.

7. Miguel's mother builds and sells houses. She wants to buy a piece of land on which to build several houses. The rectangular plot is  $\frac{3}{8}$  of a mile by  $\frac{2}{3}$  of a mile. How much land is this? (extension: How many square feet or yards would this be?)

## Unit 2, Activity 3, Multiplying Fractions with Answers

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Situations involving multiplication of fractions. Show all of your thinking. Sample answers

1. Each child wanted  $\frac{1}{2}$  of a cookie cake. There were 24 children. How many cookie cakes

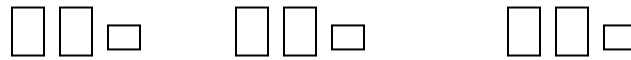
do we need? Justify your answer.

add 24 groups of  $\frac{1}{2} = 12$  cups

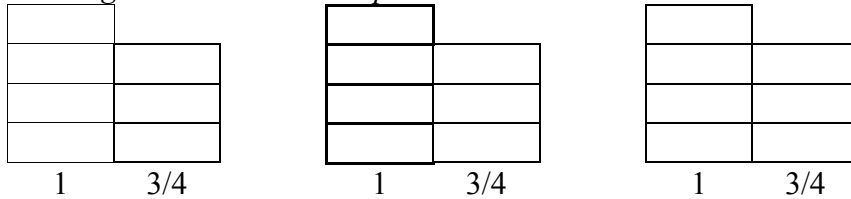
*If each child wants  $\frac{1}{2}$  of a cake, then each cake will feed two children. You will need 12 cakes.*

2. Susan needed to triple a recipe for cookies. The recipe called for  $2\frac{1}{2}$  cups of flour and  $1\frac{3}{4}$  cups sugar. How much of each will she need? Prove your answer. Explain how this problem illustrates multiplication of fractions.

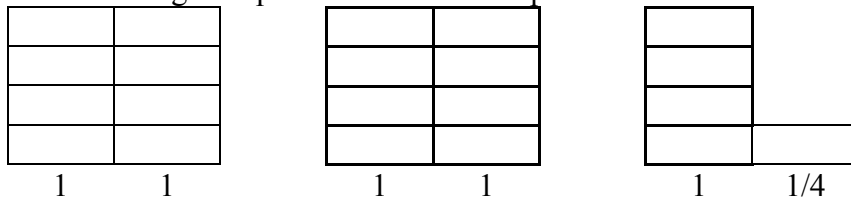
*Flour:  $3 \times 2\frac{1}{2} =$  add three groups of two and a half  $= 7\frac{1}{2}$  cups*



*Sugar:  $3 \times 1\frac{3}{4} = 5\frac{1}{4}$  cups*



Rearrange the parts to create whole pieces.

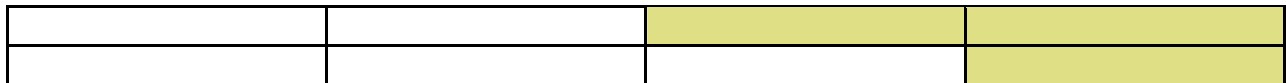


3. Monica's mom said that it takes  $\frac{3}{8}$  of a yard of fabric to make an apron but it will only

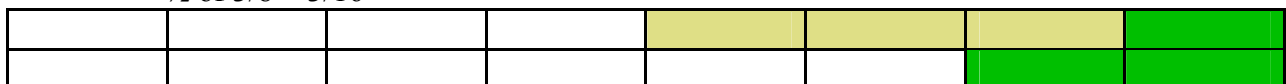
take  $\frac{1}{2}$  of that amount to make a kitchen towel. How much fabric will it take to make a

kitchen towel? How does this problem illustrate multiplication of fractions? Explain.

$\frac{3}{8}$



$\frac{1}{2}$  of  $\frac{3}{8} = \frac{3}{16}$



## Unit 2, Activity 3, Multiplying Fractions with Answers

4. Brittany wanted to give each of her 5 friends a friendship bracelet. Each bracelet takes  $\frac{2}{5}$  of a bag of beads. How many bags of beads does she need? Explain with diagram and a mathematical sentence.

$$5 \times \frac{2}{5} = \frac{5}{1} \times \frac{2}{5} = \frac{10}{5} = 2$$

5. The middle school was selling brownies. Mr. Vincent only had money to buy  $\frac{1}{3}$  of the  $2\frac{1}{4}$  pans of brownies that his wife had baked for the fund-raiser. How much of the pan of brownies was he able to buy? Explain with diagram and a mathematical sentence.

$$\frac{1}{3} \times 2\frac{1}{4} = \frac{1}{3} \times \frac{9}{4} = \frac{9}{12} = \frac{3}{4}$$

6. At the student council booth, a customer wanted to buy  $\frac{1}{3}$  of a pan that was  $\frac{1}{3}$  full. What fraction of the original pan of brownies did this person want? Explain with diagram and a mathematical sentence.

$$\frac{1}{3} \times \frac{1}{3} = \frac{1}{9}$$

7. Miguel's mother builds and sells houses. She wants to buy a piece of land in their area on which to build several houses. The rectangular plot is  $\frac{3}{8}$  of a mile by  $\frac{2}{3}$  of a mile. How much land is this? (extension: How many square feet or yards would this be?)

$$\frac{3}{8} \times \frac{2}{3} = \frac{6}{24} = \frac{1}{4} \text{ mi}^2 \text{ or } 27,878,400 \text{ ft}^2 \text{ or } 3,097,600 \text{ yd}^2$$

## Unit 2, Activity 4, Dividing Fractions

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Model each situation using a diagram or fraction pieces. Draw a sketch of your model. Write a mathematical sentence that illustrates the situation.

1. You have 5 pizzas. Each person wants  $\frac{2}{3}$  of a pizza.

2. Jamie has 7 yards of ribbon. She needs  $\frac{3}{4}$  yard to make a spirit ribbon for the football game. How many spirit ribbons can she make?

3. Ms. Phillips brought a jar of jellybeans to be shared by members of the student teams winning each game. How much of a pound of candy will each student get if a four-person team wins one-half pound of jellybeans?

4. A local candy store donated big chocolate bars that were used for prizes in a team competition. What fraction of a whole bar will each team member get if a two-person team wins  $\frac{3}{4}$  of a bar as a prize and shares it equally?

5. Snow cones are a popular summer treat. Each snow cone requires  $\frac{1}{6}$  cup of syrup.

Find how many snow cones can be made with  $\frac{1}{2}$  cup of syrup.

6. Suppose you have half a chocolate bar, and you want to make some brownies. The brownie recipe calls for  $\frac{1}{8}$  of the chocolate bar. The chocolate bar you have is enough for how many batches of brownies?

## Unit 2, Activity 4, Dividing Fractions with Answers

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Model each situation using a diagram or fraction pieces. Draw a sketch of your model.  
Write a mathematical sentence that illustrates the situation.

1. Jamie has 7 yards of ribbon; she needs  $\frac{3}{4}$  yard to make a spirit ribbon for the football game.

How many spirit ribbons can she make?

$$7 \div \frac{3}{4} = \frac{7}{1} \times \frac{4}{3} = \frac{28}{3} = 9\frac{1}{3} \text{ ribbons}$$

2. Ms. Phillips brought a jar of jellybeans to be shared by members of the student teams winning each game. How much of a pound of candy will each student get if a four-person team wins one-half pound of jellybeans?

$$\frac{1}{2} \div 4 = \frac{1}{2} \times \frac{1}{4} = \frac{1}{8} \text{ pound}$$

3. A local candy store donated big chocolate bars that were used for prizes in a team competition. What fraction of a whole bar will each team member get if a two-person team wins  $\frac{3}{4}$  of a bar as a prize and shares it equally?

$$\frac{3}{4} \div 2 = \frac{3}{4} \times \frac{1}{2} = \frac{3}{8} \text{ bar}$$

4. Snow cones are a popular summer treat. Each snow cone requires  $\frac{1}{6}$  cup of syrup.

Find how many snow cones can be made with  $\frac{1}{2}$  cup of syrup.

$$\frac{1}{2} \div \frac{1}{6} = \frac{1}{2} \times \frac{6}{1} = \frac{6}{2} = 3 \text{ snowcones}$$

5. Suppose you have half a chocolate bar, and you want to make some brownies. The brownie recipe calls for  $\frac{1}{8}$  of the chocolate bar. The chocolate bar you have is enough for how many batches of brownies?

$$\frac{1}{2} \div \frac{1}{8} = \frac{1}{2} \times \frac{8}{1} = \frac{8}{2} = 4 \text{ batches}$$

## ***Unit 2, Activity 6, Decimal Division***

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Hour:** \_\_\_\_\_

### **1. Nikki has \$25.**

A. How many 50-cent pieces are in \$25? Write this as a division problem and solve it.

B. How many quarters are in \$25? Write this as a division problem and solve it.

C. How many dimes are in \$25? Write this as a division problem and solve it.

D. How many nickels are in \$25? Write this as a division problem and solve it.

E. How many pennies are in \$25? Write this as a division problem and solve it.

### **2. Kenneth has \$0.50.**

A. How many 50-cent pieces are in \$0.50? Write this as a division problem and solve it.

B. How many quarters are in \$0.50? Write this as a division problem and solve it.

C. How many dimes are in \$0.50? Write this as a division problem and solve it.

D. How many nickels are in \$0.50? Write this as a division problem and solve it.

E. How many pennies are in \$0.50? Write this as a division problem and solve it.

3. How many one dollars are in a quarter? Does the pattern you found earlier fit this situation? Justify your thoughts.

**Unit 2, Activity 6, Decimal Division with Answers**

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Hour:** \_\_\_\_\_

**1. Nikki has \$25.**

A. How many 50-cent pieces are in \$25? Write this as a division problem and solve it.

$$25 \div 0.50 = 50$$

B. How many quarters are in \$25? Write this as a division problem and solve it.

$$25 \div 0.25 = 100$$

C. How many dimes are in \$25? Write this as a division problem and solve it.

$$25 \div 0.10 = 250$$

D. How many nickels are in \$25? Write this as a division problem and solve it.

$$25 \div 0.05 = 500$$

E. How many pennies are in \$25? Write this as a division problem and solve it.

$$25 \div 0.01 = 2,500$$

**2. Kenneth has \$0.50.**

A. How many 50-cent pieces are in \$0.50? Write this as a division problem and solve it.

$$0.50 \div 0.50 = 1$$

B. How many quarters are in \$0.50? Write this as a division problem and solve it.

$$0.50 \div 0.25 = 2$$

C. How many dimes are in \$0.50? Write this as a division problem and solve it.

$$0.50 \div 0.10 = 5$$

D. How many nickels are in \$0.50? Write this as a division problem and solve it.

$$0.50 \div 0.05 = 10$$

E. How many pennies are in \$0.50? Write this as a division problem and solve it.

$$0.50 \div 0.01 = 50$$

3. How many one dollars are in a quarter? Does the pattern you found earlier fit this situation? Justify your thoughts.

$$0.25 \div 1 = 0.25$$

## Unit 2, Activity 7, Is It Possible?

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Hour: \_\_\_\_\_

Roll a number cube or spin a spinner to pick 4 numbers. Use each of the 4 numbers only once, along with any operations symbols or grouping symbols, to write mathematical expressions that are equal to each of the numbers 1-9.

### Game 1

numbers to be used \_\_\_\_\_

_____	=1	_____	=6
_____	=2	_____	=7
_____	=3	_____	=8
_____	=4	_____	=9
_____	=5		

### Game 2

numbers to be used \_\_\_\_\_

Pick a 5<sup>th</sup> number to be used with the last number as the denominator; this will give you 3 whole numbers and 1 fraction.

_____	=1	_____	=6
_____	=2	_____	=7
_____	=3	_____	=8
_____	=4	_____	=9
_____	=5		

### Game

numbers to be used \_\_\_\_\_

Pick a 5<sup>th</sup> number to be used with the last number; place this number in the tenths position; this will give you 3 whole numbers and 1 decimal.

_____	=1	_____	=6
_____	=2	_____	=7
_____	=3	_____	=8
_____	=4	_____	=9
_____	=5		

*Unit 2, Activity 8, Challenge Numbers*

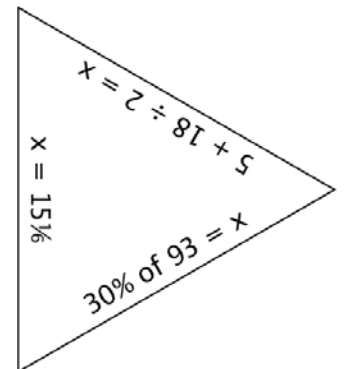
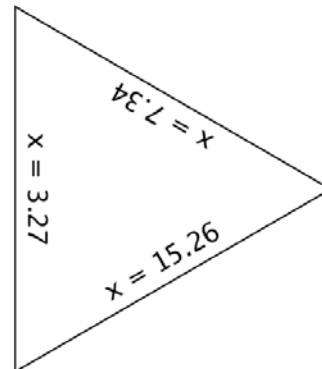
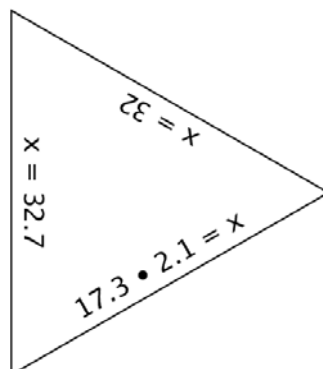
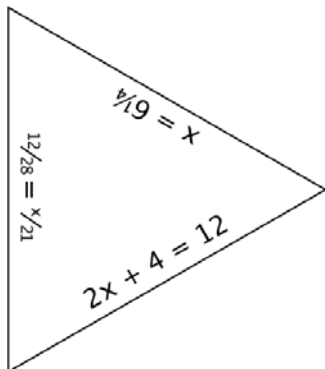
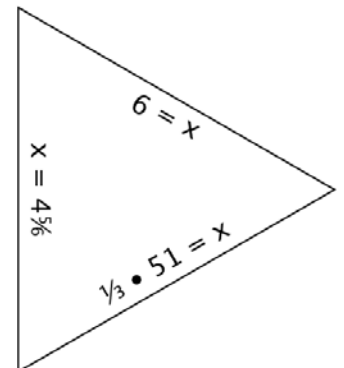
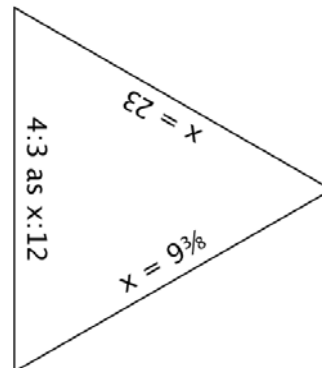
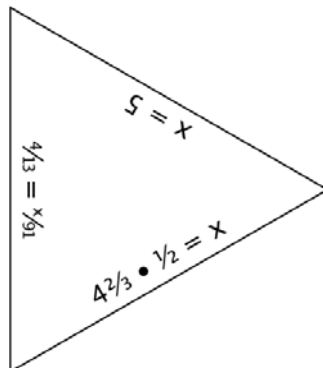
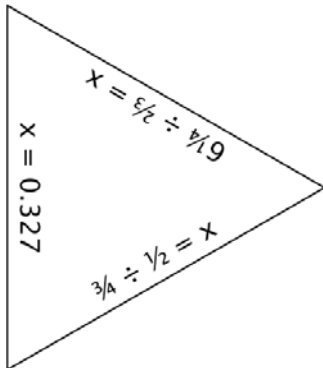
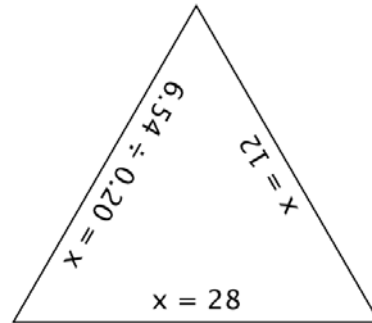
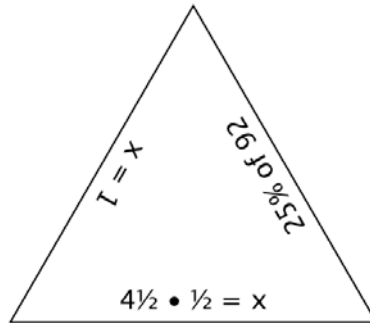
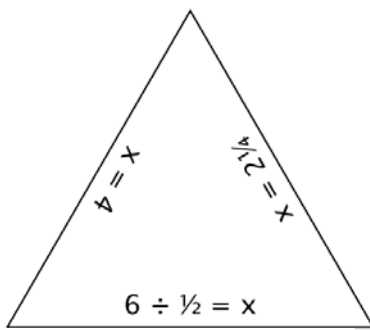
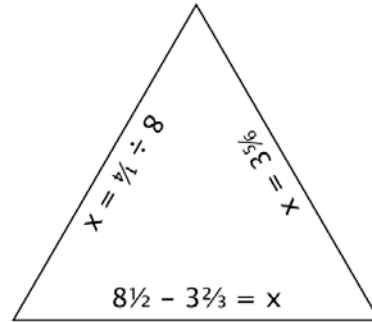
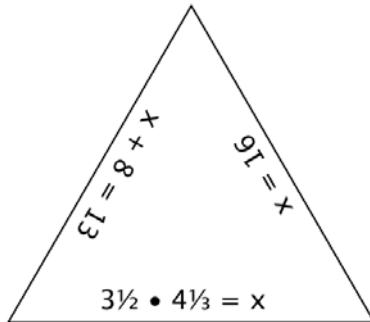
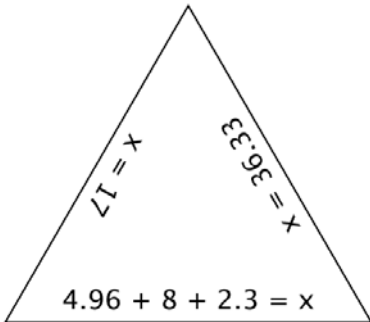
$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
1	5	10
13	16	25
27	31	34
39	42	45
48	52	55
63	64	67
70	72	75
79	80	81
89	92	97

*Unit 2, Activity 8, Challenge Symbols*

( )	÷	÷
( )	÷	÷
( )	÷	÷
( )	X	X
( )	X	X
( )	X	X
-	-	-
-	-	-
+	+	+
+	+	+

## Unit 2, Activity 9, Triangle Puzzle

Directions: Cut the triangles apart on the darkened lines. Match each problem written on one triangle edge to the solution on the matching edge of another triangle. The triangles will form a symmetrical geometrical shape when each problem is answered correctly.



*Unit 2, Activity 10, Integers*

<b>-5</b>	<b>-5</b>	<b>-5</b>	<b>-5</b>	<b>-5</b>	<b>-5</b>
<b>-4</b>	<b>-4</b>	<b>-4</b>	<b>-4</b>	<b>-4</b>	<b>-4</b>
<b>-3</b>	<b>-3</b>	<b>-3</b>	<b>-3</b>	<b>-3</b>	<b>-3</b>
<b>-2</b>	<b>-2</b>	<b>-2</b>	<b>-2</b>	<b>-2</b>	<b>-2</b>
<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>
<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

*Unit 2, Activity 10, Integers*

<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>
<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>
<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>

## Unit 2, Activity 11, Integer Target

### Integer Target

Objective: “hit” the target on your number line by making the sum of the cards in your hand equal to your target number.

Absolute Value of Target Number	$\leq 5$	6 – 11	12 – 17	18 – 23	24 - 30
Hits Required to Win	5	4	3	2	1
# of “Hits”					

Choose a target number between -30 and 30. My target number is \_\_\_\_\_.  
Place your red marker on your target number.

Place the cards in the bag and shake up the bag. Each player will choose 4 cards from the bag, without looking, and place them face-up on the table.

Players: Find the sum of the four cards, and place your green marker on that number.

1. Roll the die to determine the action you will take. (see table below)
2. Take the action.
3. Move your green marker to show the new sum of your cards. (If an opposing player’s sum is affected, he/she will move his/her green marker too.)
4. Add the cards again to check that all players’ green markers are in the correct location.
5. If the green marker lands on the red marker, count this as one target “hit”!

Play continues until someone wins by hitting his/her target the number of times shown in the table above.

Die	Action	Description
1	Draw	Draw a card from the top of the deck.
2	Discard	Choose a card from your hand, and place it in the discard pile.
3	Exchange	Draw a card from the deck, then discard another (different) card.
4	Give	Give one of your cards to the player of your choice.
5	Take	Take any card from the player of your choice.
6	Trade	Trade one of your cards for a card of any other player.

## ***Unit 2, Activity 11, Integer Target***

### REMEMBER:

The green marker is always on your current sum.

Your red marker is always on your “target” number; it never moves.

### Additional Rules

- Players will always have between 0 and 6 cards.  
If a player has 6 cards and rolls for an action that increases the number to more than 6, the player continues to roll, without taking the action until he/she gets a discard, gives, or trades.
- If a player receives a card as a result of another player’s action and it brings the count to more than 6, the “over 6” is handled as indicated above during this player’s next regular turn.
- If a player has no cards when it is his/her turn, the player continues to roll, without taking any of the actions, until he/she rolls for a take or a draw.
- Players get credit for a “target hit” ONLY on his/her turn.  
If another player’s action moves you to your target, you may still get credit for a hit if you can stay on the target during your own next turn. (Ex. Discard a 0 card or trade one of your cards for another player’s card of the same value.)
- Each player gets an equal number of turns. Ties are broken by awarding the victory to the person whose chosen target number is the farthest from zero.

*Unit 2, Activity 13, Cooperative Problem Solving*

<p style="text-align: center;"><b>A</b></p> <p>The seventh graders are planning to sell cups of hot chocolate at the basketball games this winter.</p>	<p style="text-align: center;"><b>A</b></p> <p>If 6 spoonfuls of mix make a cup of hot chocolate.</p>	<p style="text-align: center;"><b>A</b></p> <p>How many spoonfuls of mix will be needed to make 42 cups of hot chocolate?</p>
<p style="text-align: center;"><b>B</b></p> <p>Jared has an economy car. He figures that it costs him \$30 to make a trip of 120 miles.</p>	<p style="text-align: center;"><b>B</b></p> <p>Jared's sister's car costs a bit more to operate. She figures that she spends five cents more than Jared to drive each mile.</p>	<p style="text-align: center;"><b>B</b></p> <p>How many miles can the sister travel for the cost of \$18.00?</p>
<p style="text-align: center;"><b>C</b></p> <p>A certain recipe for calls for 2 teaspoons of vanilla and <math>\frac{1}{3}</math> cup of oil.</p>	<p style="text-align: center;"><b>C</b></p> <p>You want to make a large batch of brownies for your class using <math>10\frac{1}{2}</math> cups of oil.</p>	<p style="text-align: center;"><b>C</b></p> <p>How much vanilla would you need?</p>
<p style="text-align: center;"><b>D</b></p> <p>Bastrop High School has a big football game this week, and several businesses have asked Miranda to paint the windows to show their support of the team.</p>	<p style="text-align: center;"><b>D</b></p> <p>Miranda can paint 3 business windows for the upcoming football game in 2 hours.</p>	<p style="text-align: center;"><b>D</b></p> <p>How long will it take her to paint 10 business windows?</p>

*Unit 2, Activity 13, Cooperative Problem Solving*

<p>E Blue whales eat tons of krill, a type of small shrimp.</p>	<p>E A single blue whale may eat 4.5 tons of krill per day.</p>	<p>E At this rate, how many tons of krill would a blue whale eat in two weeks?</p>
<p>F Jane is taking a trip and wants to know how much gas she'll need for her car.</p>	<p>F She can go 152 miles on 8 gallons of gasoline.</p>	<p>F How many miles to the gallon will she get?</p>
<p>G Kayla wants to call her sister who lives in Texas.</p>	<p>G Long distance phone calls cost 18¢ for 3 minutes.</p>	<p>G How much does it cost for one minute?</p>
<p>H Juanita is typing a report for her science project.</p>	<p>H She can type 156 words in 4 minutes.</p>	<p>H What is her typing rate?</p>
<p>I Ashleigh is participating in a race for a school fundraiser.</p>	<p>I Suppose she can maintain a pace of 7.5 minutes per mile for a distance of 13 miles.</p>	<p>I How long will it take her to run 13 miles?</p>
<p>J Danika's parents want to know who has the most fuel efficient car. Both parents work Monday through Friday.</p>	<p>J Her mother drives 26 miles to work every day and 26 miles back home. Her father travels back and forth to work 22 miles each way.</p>	<p>J Danika's mother puts 19 gallons of gas in her car every 2 weeks and her father puts 15.5 gallons in his car every 2 weeks. Who has the most fuel efficient car?</p>

*Unit 2, Activity 13, Cooperative Problem Solving*

<p style="text-align: center;">K</p> <p>Shawna is marching in a parade down Ryan Street in Lake Charles with the band.</p>	<p style="text-align: center;">K</p> <p>A drawing of Lake Charles uses a scale of 1 cm = 2 miles. On the drawing, the length Ryan Street is 2.5 cm.</p>	<p style="text-align: center;">K</p> <p>What is the actual length of Ryan Street?</p>
<p style="text-align: center;">L</p> <p>Sue and James are standing together in a photograph.</p>	<p style="text-align: center;">L</p> <p>Sue is 5 feet tall and James is 6 feet tall. In the photograph, James is <math>3\frac{1}{2}</math> cm tall.</p>	<p style="text-align: center;">L</p> <p>How tall is Sue in the photograph?</p>
<p style="text-align: center;">M</p> <p>Nelly wants to compete for the Physical Fitness Award in race-walking.</p>	<p style="text-align: center;">M</p> <p>To receive this award, a person must race-walk a total of 200 miles at an average rate of no slower than 12 minutes per mile.</p>	<p style="text-align: center;">M</p> <p>How many hours would it take to race-walk a total of 200 miles at a rate of 12 miles per minute?</p>

***Unit 2, Activity 13, Cooperative Problem Solving with Answers***

- A. 144 spoonfuls
- B. a little more than 7 miles ( $7 \frac{1}{17}$  miles)
- C. 63 teaspoons of vanilla
- D.  $6 \frac{2}{3}$  hours or 6 hours and 40 minutes
- E. 63 Tons
- F. 19 miles per gallon
- G. \$0.06 / minute
- H. 39 words per minute
- I. 97.5 minutes or 1 hour 37 and  $\frac{1}{2}$  minutes
- J. Danika's mother's car @ 27.4 mpg (dad's car = 28.4 mpg)
- K. 5 miles
- L.  $2 \frac{11}{12}$  cm
- M. 2400 minutes or 40 hours

**Unit 2, Activity 14, Common Ratios**

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Hour:** \_\_\_\_\_

Have someone measure your described distances to complete the chart. Distances should be measured to the nearest millimeter.

Small measurement	Large measurement	Ratio ( $\frac{small}{large}$ )
Bellybutton height	Total height	
Bellybutton to top of head	Bellybutton height	
Chin to top of head	Bellybutton to chin	
Tip of nose to top of head	Chin to top of head	
Width of nose	Width of lips	

1. Do the ratios form a common ratio? Explain.
  
2. You can now use this relationship to predict measurements.
  - A. What is the approximate height of a person whose bellybutton is 100 cm off the ground?
  
  - B. What is the approximate height of a person if the distance from his/her bellybutton to the top of his/her head measures 57 cm?
  
  - C. Michael Jordan is about 6 feet 7 inches. What would be his bellybutton height?

## Unit 2, Activity 15, In Another World

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Hour: \_\_\_\_\_

You are a 65-inch tall Earthling who has landed on the world of Gianormas. Immediately upon arrival, you meet Leonardo who is 50 ft tall! As you look around, you notice that everything in this new world is Leonardo's size. You assume that everything is to the same scale as it is on Earth.

Measure the following items in your classroom to the nearest quarter-inch. Then use a proportion to find the measurement of each item on Gianormas.

	measurement on Earth	measurement on Gianormas
height of desk		
length of a pencil		
height of door or window		
shoe length		
arm length		

Write a couple of sentences describing how you would complete an everyday task while on Gianormas.

Suppose the height of a visiting Lilliputian woman is 15 inches. Use proportions to find the measurement of the items in the world of the Lilliputians.

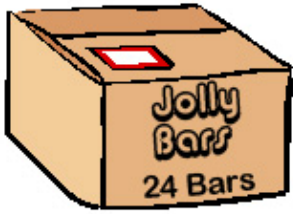
	measurement on Lilliputian
height of desk	
length of a pencil	
height of door or window	
shoe length	
arm length	

Write a couple of sentences describing how you would complete an everyday task while visiting Lilliputian.

### Unit 3, Activity 2, Candy Bars

Name: \_\_\_\_\_

Date: \_\_\_\_\_



At Tasty Candy Co. different types of candy bars are packaged with different numbers of bars in each box. Jolly bars are packaged with 24 bars in each box, Nutty Bars with 20, and Cocoa Bars with 32. Write an expression that illustrates buying 5 boxes of each type of candy bar.

Use the distributive property to find the total number of candy bars. Show your work.

If you sell 3 boxes of Jolly Bars, 5 boxes of Nutty Bars, and 1 box of Cocoa Bars, how many bars did you sell? Show your work.

George sold 3 boxes of each kind of candy bar. Write an expression and evaluate it to find how many candy bars George sold.

Kandice sold 4 boxes of Jolly Bars, 4 boxes of Cocoa Bars, and 2 boxes of Nutty Bars. Write an expression and evaluate it to find how many candy bars Kandice sold.

If you sell more than three boxes of Nutty Bars, the company will give you an extra bar for each box. Write the expression that represents the number of Nutty Bars you will have if you sold 4 boxes. How many candy bars is this? Show your work.

The different bars can cost different amounts. If Cocoa Bars sell for \$0.50 each, how much would 5 boxes of Cocoa Bars cost?

### Unit 3, Activity 2, Candy Bars with Answers

Name: \_\_\_\_\_

D



At Tasty Candy Co. different types of candy bars are packaged with different numbers of bars in each box. Jolly Bars are packaged with 24 bars in each box, Nutty Bars with 20, and Cocoa Bars with 32. Write an expression that illustrates buying 5 boxes of each type of candy bar.  
 $5(24) + 5(20) + 5(32)$  or  $5(24 + 20 + 32)$  <The second expression is the one we want the students to use.>

Use the distributive property to find the total number of candy bars. Show your work.  
 $5(24 + 20 + 32) = \underline{380}$

If you sell 3 boxes of Jolly bars, 5 boxes of Nutty Bars, and 1 box of Cocoa Bars, how many bars did you sell? Show your work. *Make sure that students set up the problem as*  
 $3(24) + 5(20) + 1(32) = \underline{204}$  *indicating that distribution cannot be used since the number of boxes for each type is not the same.*

George sold 3 boxes of each kind of candy bar. Write an expression and evaluate it to find how many candy bars George sold.  
 $3(24 + 20 + 32) = \underline{228}$

Kandice sold 4 boxes of Jolly Bars, 4 boxes of Cocoa Bars, and 2 boxes of Nutty Bars. Write an expression and evaluate it to find how many candy bars Kandice sold.  
 $4(24 + 32) + 2(20) = \underline{264}$

If you sell more than three boxes of Nutty Bars, the company will give you an extra bar for each box. Write the expression that represents the number of Nutty Bars you will have if you sold 4 boxes. How many candy bars is this? Show your work.  
 $4(20 + 1) = \underline{84}$

The different bars can cost different amounts. If Cocoa Bars sell for \$0.50 each, how much would 5 boxes of Cocoa Bars cost?  
 $5 \times (32 \times .50) = \underline{\$75}$

**Unit 3, Activity 6, Square Roots**

What is the approximate value of $\sqrt{15}$	Estimate $\sqrt{200}$	What is the value of $\sqrt{25}$	Estimate $\sqrt{130}$	What is the approximate value of $\sqrt{50}$
What is the value of $\sqrt{121}$	What is the approximate value of $\sqrt{175}$	What is the value of $\sqrt{100}$	What is the approximate value of $\sqrt{350}$	What is the value of $\sqrt{289}$
Estimate $-\sqrt{102}$	What is the value of $\sqrt{324}$	What is the approximate value of $-\sqrt{53}$	Estimate $\sqrt{227}$	Estimate $-\sqrt{301}$
What is the approximate value of $\sqrt{205}$	Estimate $-\sqrt{400}$	Estimate $\sqrt{98}$	What is the value of $-\sqrt{225}$	What is the approximate value of $-\sqrt{47}$
What is the value of $-\sqrt{81}$	What is the value of $\sqrt{196}$	What is the approximate value of $\sqrt{6}$	Estimate $-\sqrt{13}$	Estimate $-\sqrt{28}$
What is the approximate value of $\sqrt{314}$	What is the value of $-\sqrt{36}$	Estimate $-\sqrt{141}$	What is the approximate value of $-\sqrt{260}$	What is the value of $-\sqrt{169}$
Estimate $-\sqrt{333}$	What is the approximate value of $-\sqrt{360}$	What is the value of $\sqrt{64}$	What is the approximate value of $-\sqrt{391}$	What is the value of $-\sqrt{324}$

### Unit 3, Activity 8, What's My Value?

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Determine which replacement values in the second column should be used to produce the given value for each expression in the first column.

\_\_\_\_\_ 1.  $\sqrt{x} + 5 = 7$   $x = 1$

\_\_\_\_\_ 2.  $x^2 + 5 = 30$   $x = 2$

\_\_\_\_\_ 3.  $x^3 + \sqrt{4} = 29$   $x = 3$

\_\_\_\_\_ 4.  $x^2 + x^3 = 810$   $x = 4$

\_\_\_\_\_ 5.  $\sqrt{100} - x^2 = 9$   $x = 5$

\_\_\_\_\_ 6.  $\frac{\sqrt{9}}{3} + x^2 = 65$   $x = 6$

\_\_\_\_\_ 7.  $x^2 - \sqrt{9} = 46$   $x = 7$

\_\_\_\_\_ 8.  $x^2 + \frac{\sqrt{81}}{3} = 39$   $x = 8$

\_\_\_\_\_ 9.  $x^3 - \sqrt{4} = 6$   $x = 9$

\_\_\_\_\_ 10.  $2x^2 + \sqrt{25} = 205$   $x = 10$

### Unit 3, Activity 8, What's My Value? with Answers

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Determine which replacement values from the second column should be used to make the equation from the first column true.

<u><math>x=4</math></u>	1. $\sqrt{x} + 5 = 7$	$x = 1$
<u><math>x=5</math></u>	2. $x^2 + 5 = 30$	$x = 2$
<u><math>x=3</math></u>	3. $x^3 + \sqrt{4} = 29$	$x = 3$
<u><math>x=9</math></u>	4. $x^2 + x^3 = 810$	$x = 4$
<u><math>x=1</math></u>	5. $\sqrt{100} - x^2 = 9$	$x = 5$
<u><math>x=8</math></u>	6. $\frac{\sqrt{9}}{3} + x^2 = 65$	$x = 6$
<u><math>x=7</math></u>	7. $x^2 - \sqrt{9} = 46$	$x = 7$
<u><math>x=6</math></u>	8. $x^2 + \frac{\sqrt{81}}{3} = 39$	$x = 8$
<u><math>x=2</math></u>	9. $x^3 - \sqrt{4} = 6$	$x = 9$
<u><math>x=10</math></u>	10. $2x^2 + \sqrt{25} = 205$	$x = 10$

*Unit 3, Activity 9, Equations*

$3p + 2 = 23$	$3n + 1 = 10$
$1 + 4g = 13$	$2t + 3 = -3$
$4m - 6 = 22$	$6 + 3g = 0$
$2j + 7 = 1$	$3y + 1 = 7$
$2f - 4 = 2$	$-2x - 7 = 3$
$4 + 5r = -11$	$5h + 4 = 19$
$1 + 2r = -3$	$4x + 5 = 13$
$-6y + 1 = -17$	$4 + 2c = 8$
$-3c + 9 = 3$	$-3n - 8 = 7$

*Unit 3, Activity 9, Equations with Answers*

$3p + 2 = 23$ $p = 7$	$3n + 1 = 10$ $n = 3$
$1 + 4g = 13$ $g = 3$	$2t + 3 = -3$ $t = -3$
$4m - 6 = 22$ $m = 7$	$6 + 3g = 0$ $g = -2$
$2j + 7 = 1$ $j = -3$	$3y + 1 = 7$ $y = 2$
$2f - 4 = 2$ $f = 3$	$-2x - 7 = 3$ $x = -5$
$4 + 5r = -11$ $r = -3$	$5h + 4 = 19$ $h = 3$
$1 + 2r = -3$ $r = -2$	$4x + 5 = 13$ $x = 2$
$-6y + 1 = -17$ $y = 3$	$4 + 2c = 8$ $c = 2$
$-3c + 9 = 3$ $c = 2$	$-3n - 8 = 7$ $n = -5$

*Unit 3, Activity 10, Inequality Bingo*



### Unit 3, Activity 10, Verbal Inequalities

Use with Inequality Bingo version 1. Cut apart.

1. 6 less than James	$<$
2. Children under 13 are not permitted without an adult.	$<$
3. 12 less than 2 times Sam's amount	$<$
4. Kenneth has fewer checkers than Ronald.	$<$
5. 5 times a number is greater than 25	$>$
6. 4 more than Kerri	$>$
7. Marci has more than Timothy.	$>$
8. Kaci had to spend more than \$50 to get the discount.	$>$
9. The swing's maximum capacity is 50 pounds.	$\leq$
10. No more than 6 people can ride at the same time.	$\leq$
11. a scooter has a maximum speed of 12mph	$\leq$
12. The bench will accommodate up to 7 people	$\leq$
13. at least 2 hours of homework	$\geq$
14. the sum of 3 and a number is at least 9	$\geq$
15. You must be at least 18 to register to vote.	$\geq$
16. A grade of no less than 90 is considered an A.	$\geq$

### Unit 3, Activity 10, Algebraic Inequalities

Use with Inequality Bingo version 2. Cut apart. Have students write one of the inequalities in each block

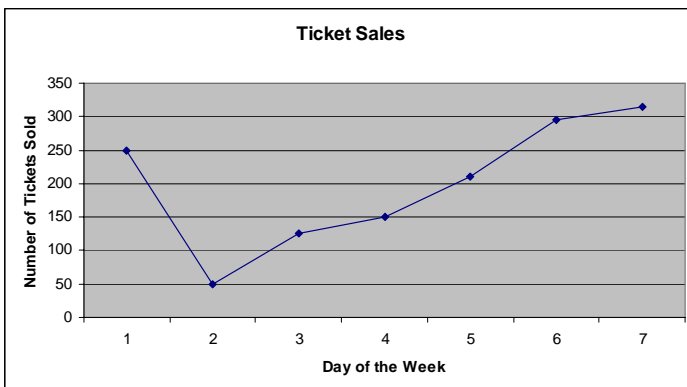
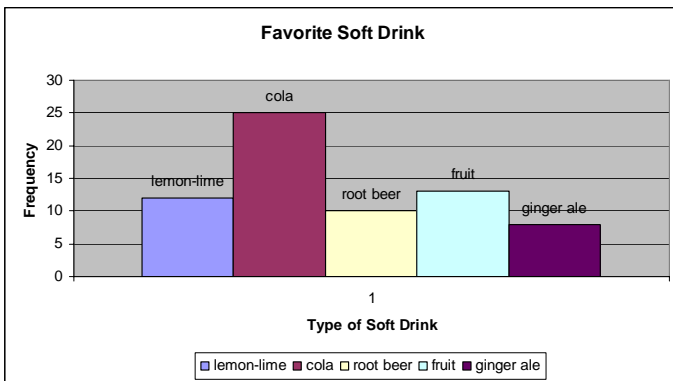
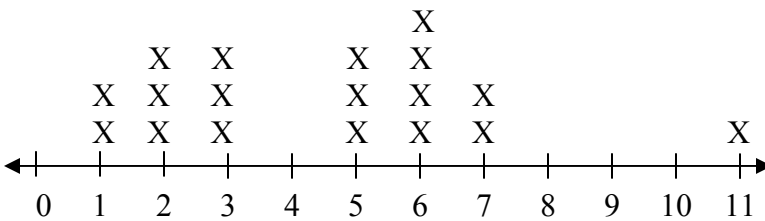
$x + 2y > 26$	Joe's age, $x$ , added to twice Morgan's age, $y$ , is greater than 26
$3x + y < 7$	3 times the number of pennies, $x$ , plus the number of dimes, $y$ , is less than 7
$l \geq 5$	Greg must run at least 5 laps around the track after practice.
$q \leq 4$	Deon cannot miss more than 4 questions on the test.
$c \leq 35$	The cost can be no more than \$35.
$b \leq 150$	The building is no more than 150 ft tall.
$n + 7 \leq 27$	A number increased by 7 is no more than 27.
$n - 2 > 17$	A number decreased by 2 is more than 17.
$3n \geq 24$	Three times a number is no less than 24.
$w < 8$	The baby weighed less than 8 pounds at birth.
$w \leq 15$	Kirby's family waited no more than 15 minutes to be seated at the restaurant.
$d < 13$	TJ drives less than 13 miles to school everyday.
$w > 6$	Mandi walks more than 6 miles everyday
$s \geq 24$	Cedric swims at least 24 laps everyday in his pool.

## Unit 4, Activity 1, Describe the Data

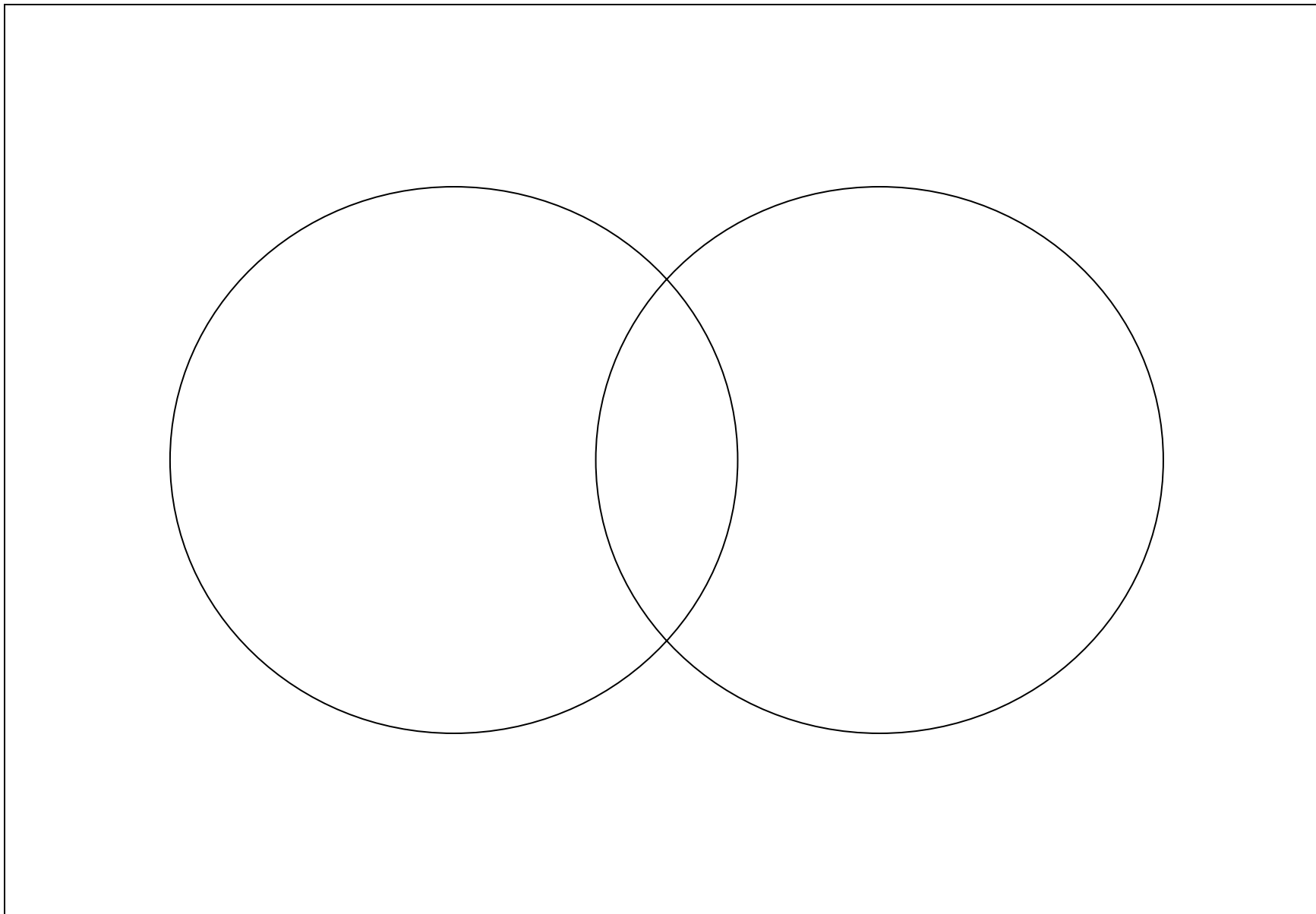
Name: \_\_\_\_\_

Describe each set of data in terms of patterns, clusters, gaps, and outliers.

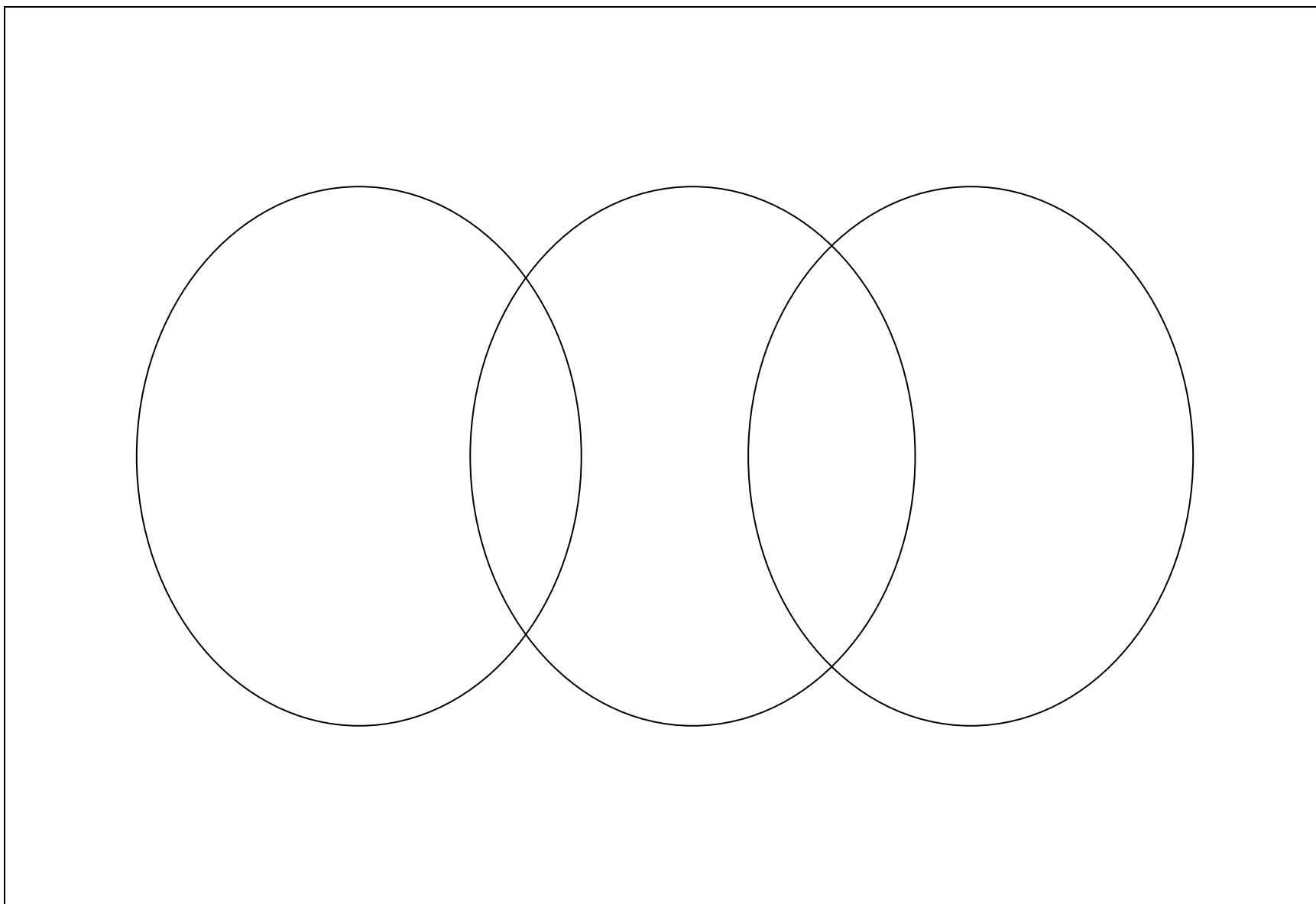
Kind of Music	Tally	Frequency
Pop		13
Rap		12
R&B		11
Country		10
Gospel		3



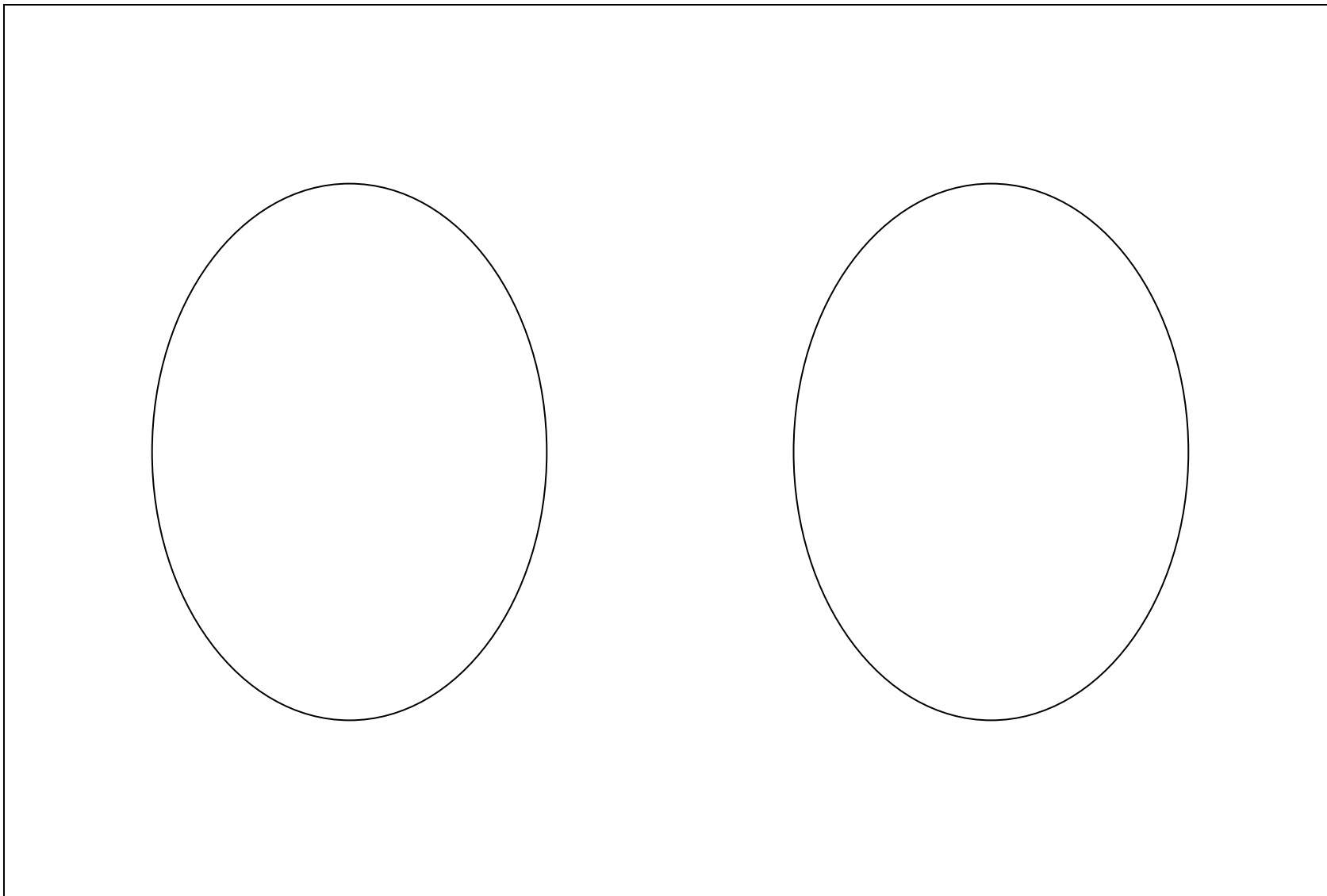
*Unit 4, Activity 4, Venn Diagram Examples*



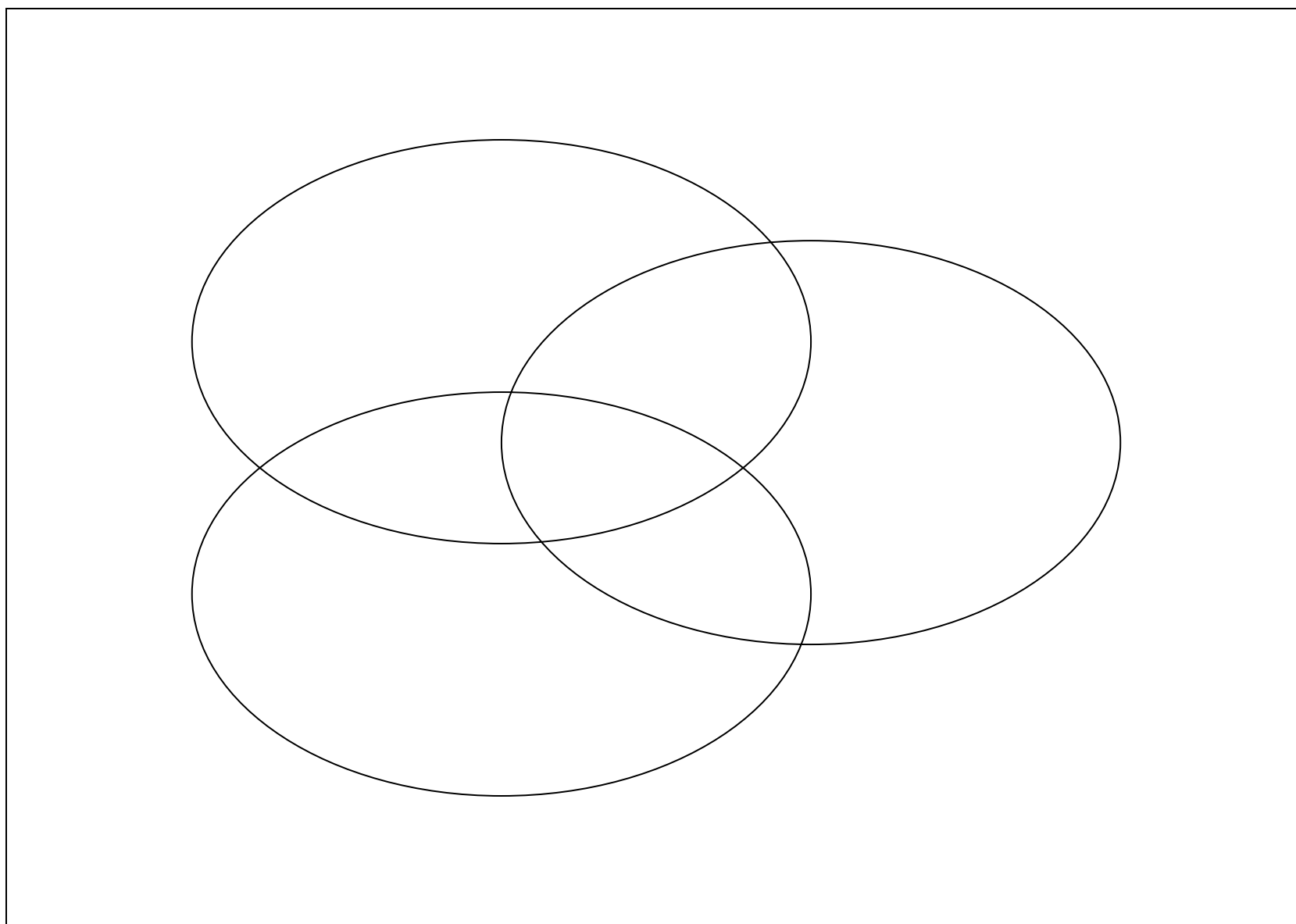
*Unit 4, Activity 4, Venn Diagram Examples*



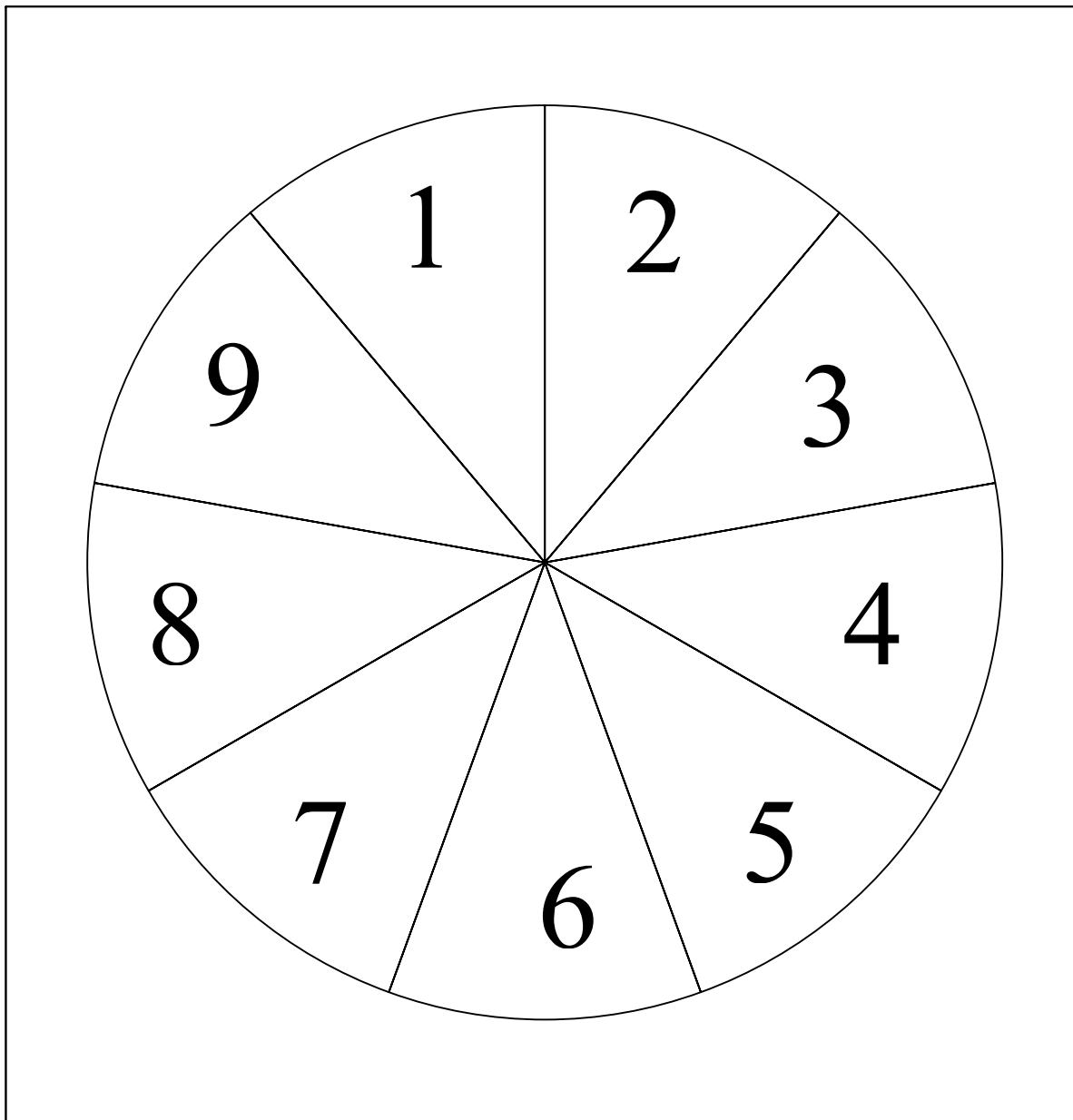
*Unit 4, Activity 4, Venn Diagram Examples*



*Unit 4, Activity 4, Venn Diagram Examples*



*Unit 4, Activity 8, Spinner*



*Unit 4, Activity 10, Sums Game*

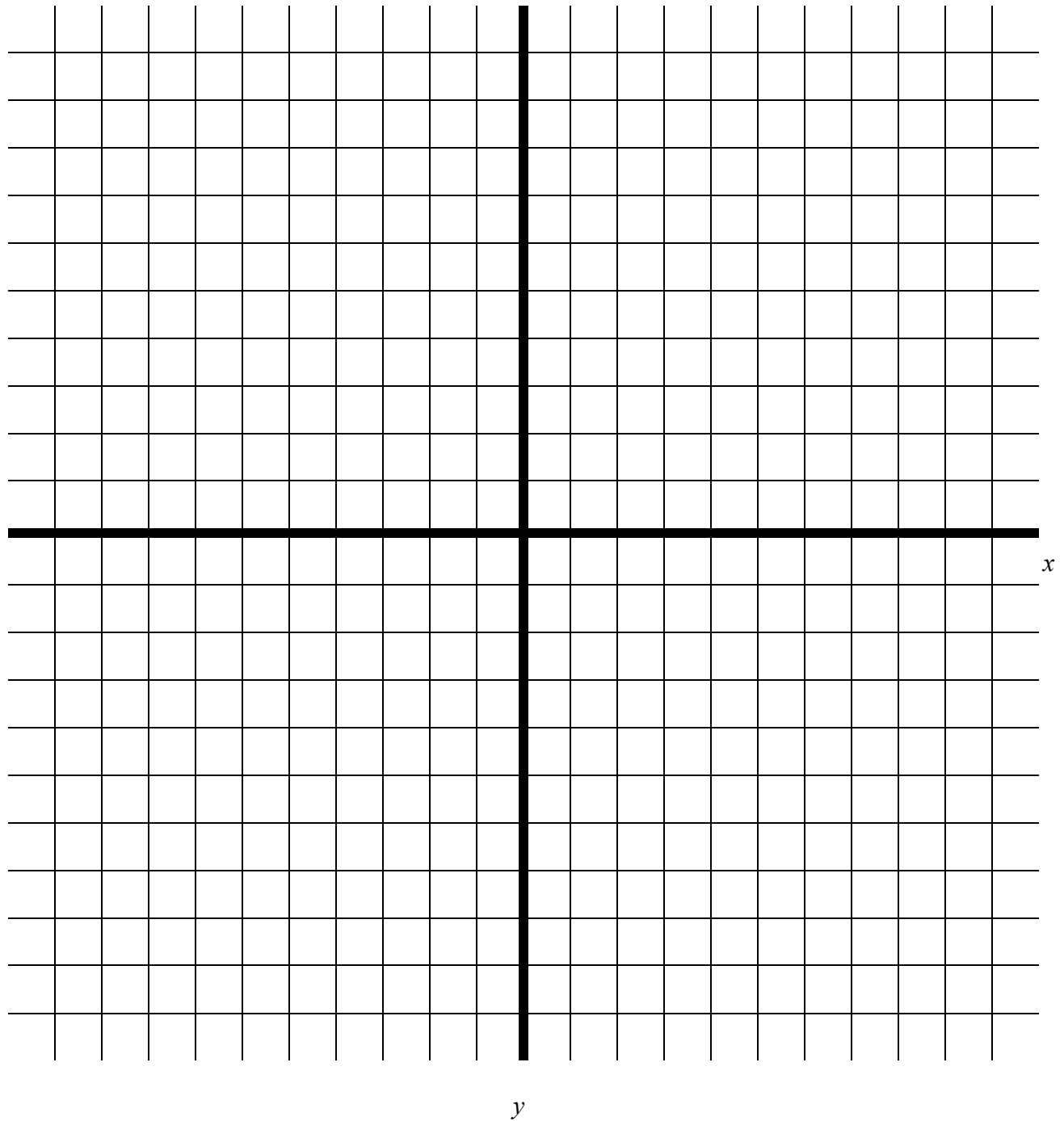
Player 1 \_\_\_\_\_

Sums:	2	3	4	5	6	7	8
Combinations:							

Player 2 \_\_\_\_\_

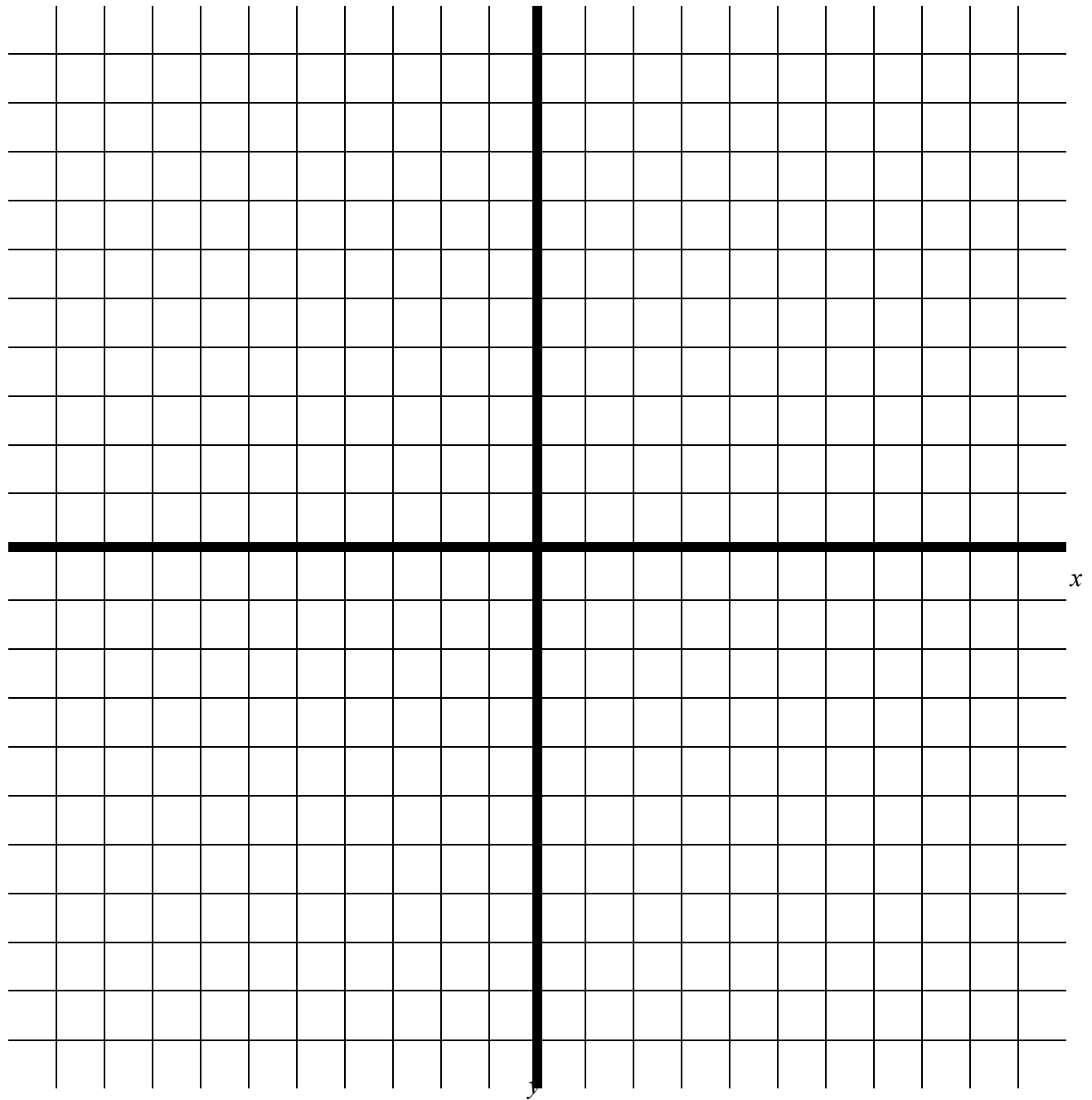
Sums:	2	3	4	5	6	7	8
Combinations:							

*Unit 5, Activity 2, Battlefield*



- 5 tanks (each tank occupies 5 consecutive points)
- 4 trucks (each truck occupies 4 consecutive points)
- 3 jeeps (each jeep occupies 3 consecutive points)

*Unit 5, Activity 3, Transformations-Reflections*



Reflection GIST

y

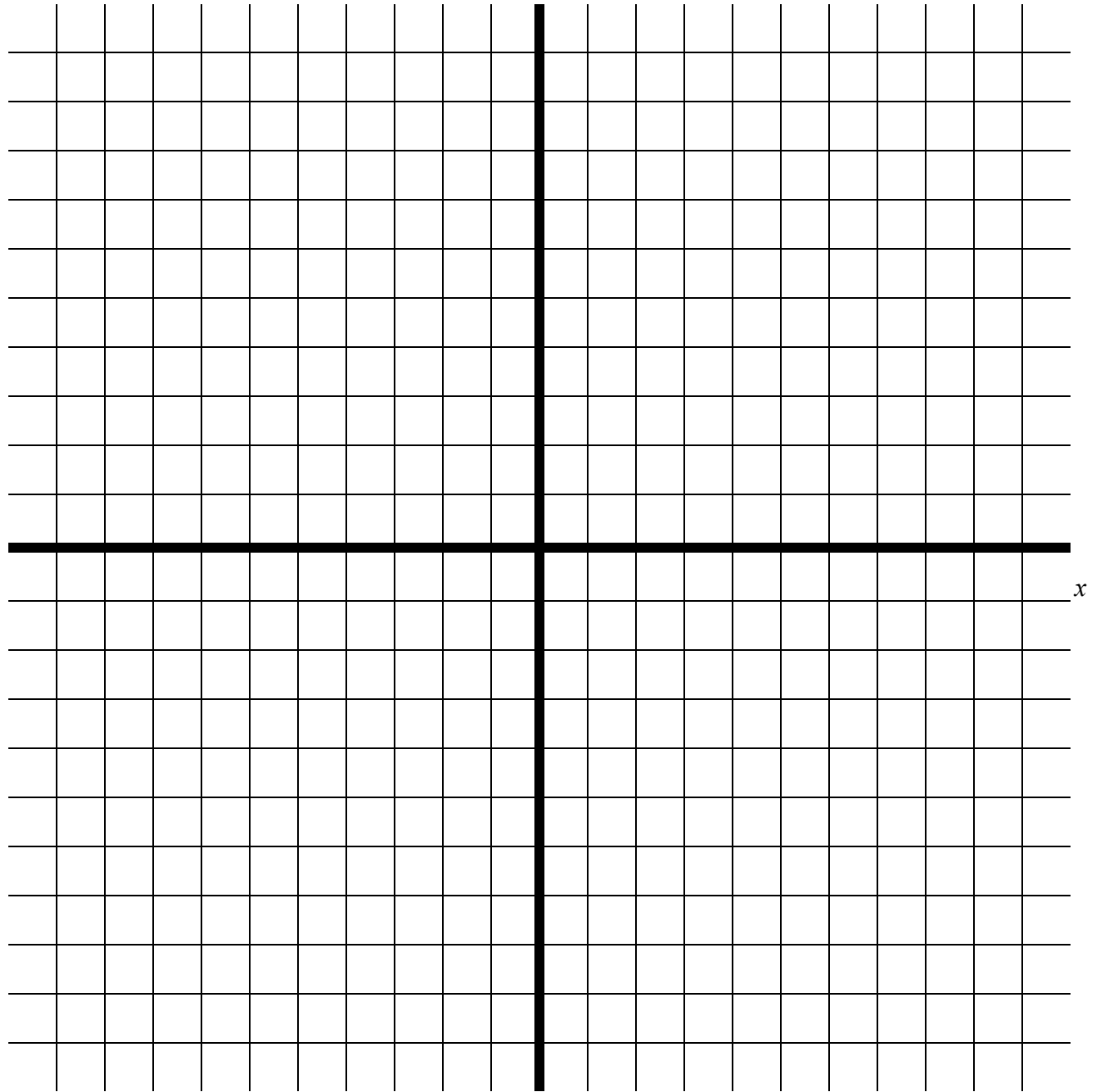
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*Unit 5, Activity 3, Transformations-Translations*



Translation GIST

*y*

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***Unit 5, Activity 4, Area vs Perimeter***

**What Are Your Opinions About Area and Perimeter?**

**Directions:** After each statement, write SA (strongly agree), A (agree), D (disagree), or SD (strongly disagree). Then in the space provided, briefly explain the reasons for your opinions.

1. The area of a polygon is always larger than its perimeter. \_\_\_\_\_

Your reasons:

2. The perimeter of a polygon is the distance around it. \_\_\_\_\_

Your reasons:

3. The area of a rectangle with dimensions 2 in by 10 in is  $24 \text{ in}^2$ . \_\_\_\_\_

Your reasons:

*Unit 5, Activity 5, Around the Lid*

Name: \_\_\_\_\_

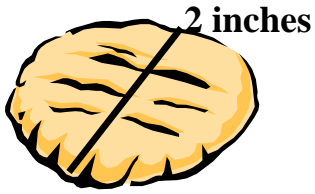
<b>Lid Number</b>	<b>Diameter</b>	<b>Circumference</b>	<b>Ratio <math>\frac{C}{d}</math></b>	<b>Decimal Value</b>

Write three observations that can be made from the information in the table.

**Unit 5, Activity 7, Circles in Real Life**

Name: \_\_\_\_\_

1. Miessha is baking cookies. Find the area of one of her cookies.



2. Carl wants to buy a cover for his swimming pool. The swimming pool is 12 feet across. Find the area of the top of his swimming pool.



3. Ruby is cooking dinner. Find the circumference and area of the plate she will use.



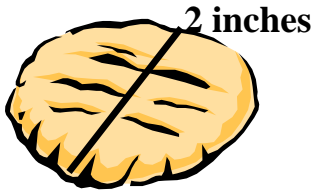
4. Silmon has a magnifying glass that is in the shape of a circle. Find the circumference and area of the glass.



**Unit 5, Activity 7, Circles in Real Life with Answers**

Name: \_\_\_\_\_

1. Miessha is baking cookies. Find the area of one of her cookies.  $3.14 \text{ in}^2$



2. Carl wants to buy a cover for his swimming pool. The swimming pool is 12 feet across. Find the area of the top of his swimming pool.  $113.04 \text{ ft}^2$



3. Ruby is cooking dinner. Find the circumference and area of the plate she will use.  
 $\text{circumference} = 62.8 \text{ cm}$        $\text{area} = 314 \text{ cm}^2$



4. Silmon has a magnifying glass that is in the shape of a circle. Find the circumference and area of the glass.  
 $\text{circumference} = 25.12 \text{ cm}$        $\text{area} = 50.24 \text{ cm}^2$



*Unit 5, Activity 8, Circumference and Area*

Name: \_\_\_\_\_

Radius	Area	Diameter	Circumference

How do the radii compare?

How do the areas compare?

Do you think the patterns are the same for the other sets of radii used by the other groups? Explain your reasoning.

How do the circumferences compare?

How do the diameters compare?

Do you think the patterns are the same for the other sets of diameters used by the other groups? Explain your reasoning.

**Unit 5, Activity 8, Circumference and Area with Answers**

Name: \_\_\_\_\_

(sample answers)

Radius	Area	Diameter	Circumference
2 cm	$12.56\text{cm}^2$	$4\text{cm}$	$12.56\text{cm}$
4 cm	$50.24\text{cm}^2$	$8\text{ cm}$	$25.12\text{cm}$
8 cm	$200.96\text{cm}^2$	$16\text{ cm}$	$50.24\text{cm}$

How do the radii compare?  
(*The radii double each time*)

How do the areas compare?  
(*The areas are 4 times bigger each time the radii doubles.*)

Do you think the patterns are the same for the other sets of radii used by the other groups? Explain your reasoning.

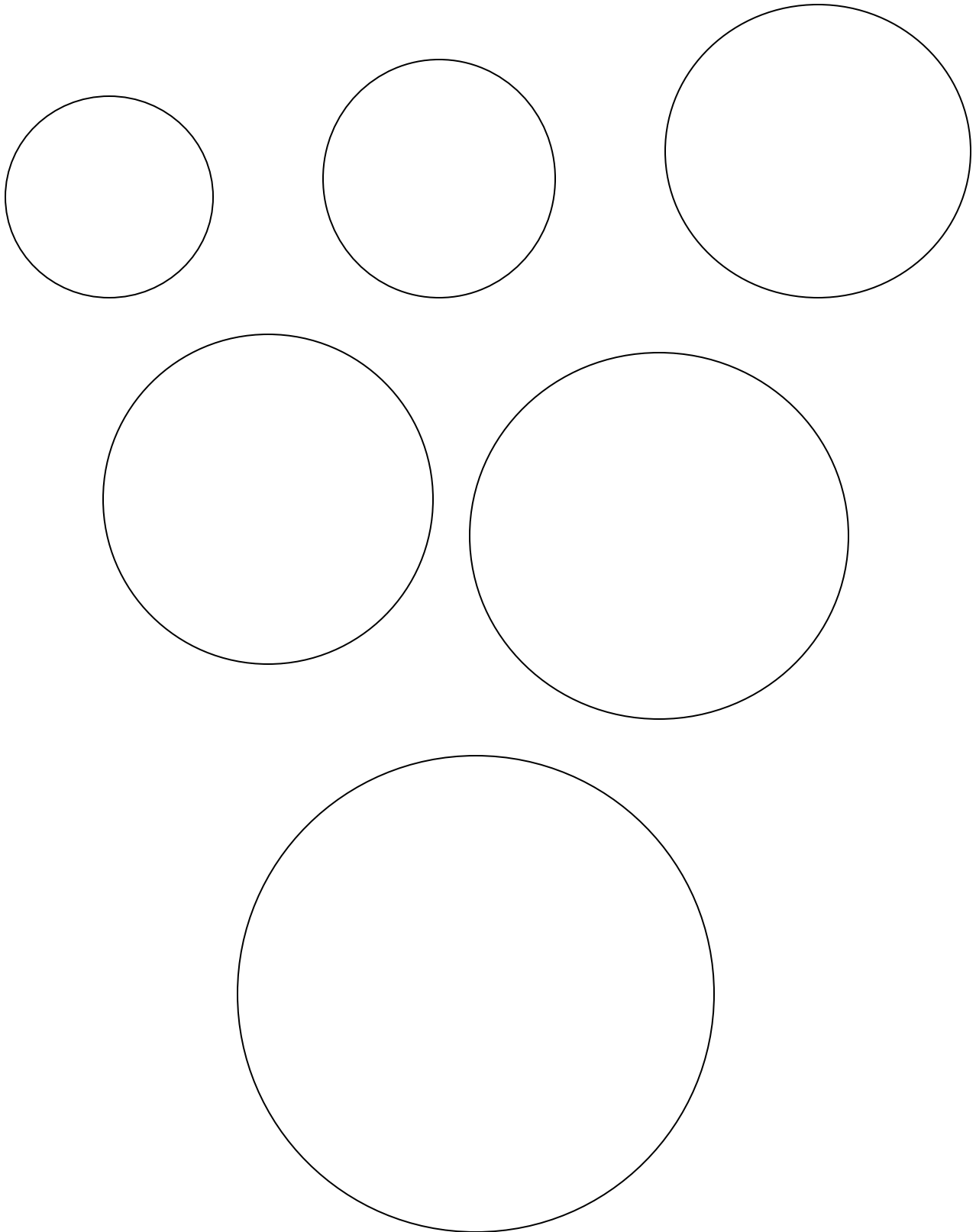
How do the circumferences compare?  
(*The circumferences double each time the radius is doubled.*)

How do the diameters compare?  
(*The circumferences double each time the diameters are doubled.*)

Do you think the patterns are the same for the other sets of diameters used by the other groups? Explain your reasoning.

*Unit 5, Activity 9, What's Your Angle*

Name: \_\_\_\_\_



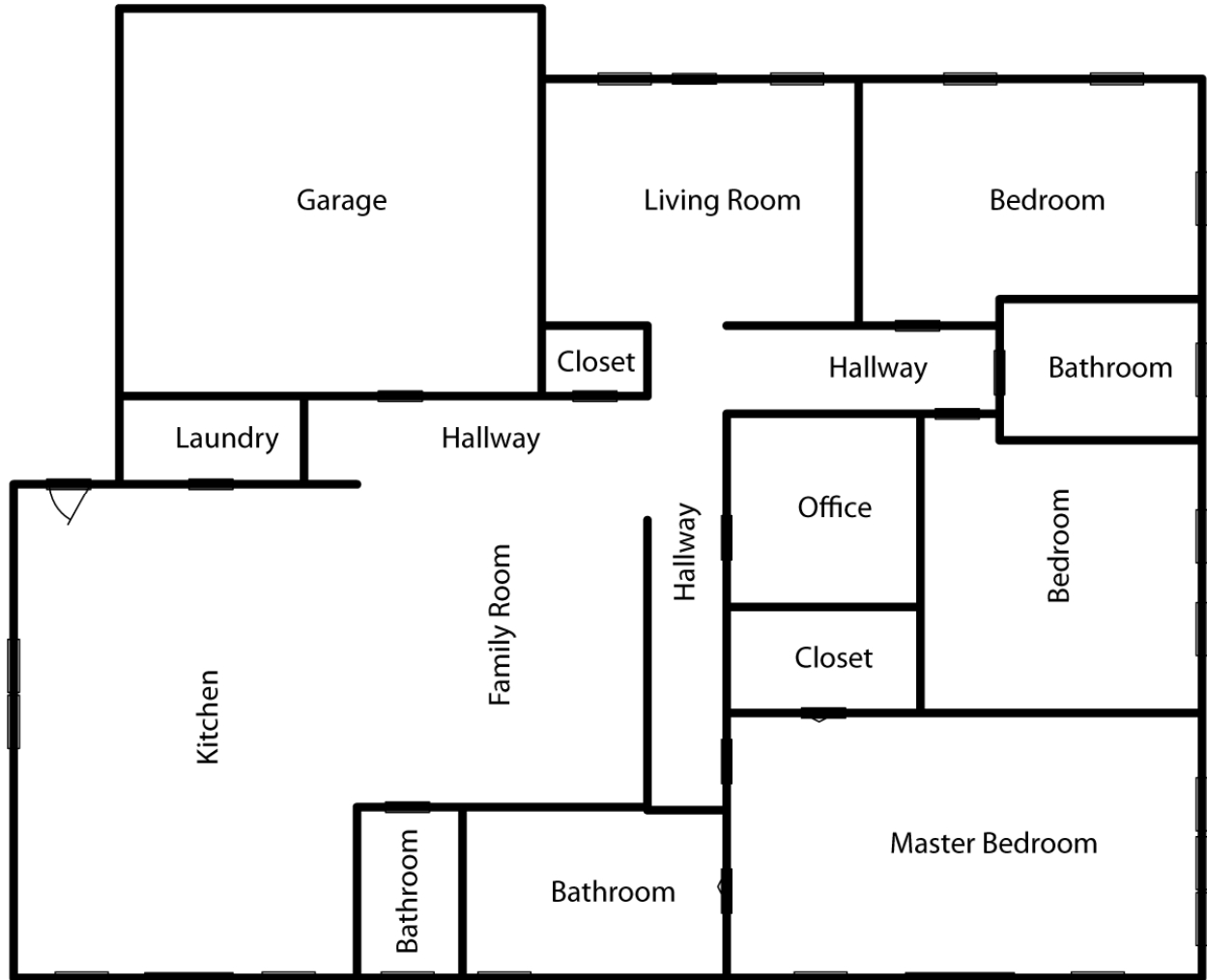
## *Unit 5, Activity 13, More If-Then Statements*

Name: \_\_\_\_\_

Complete each if, then statement. Remember your conclusion must be a mathematical conclusion.

1. If point A is found in quadrant III of a coordinate grid, then...
2. If point R is found on a coordinate grid at (4, -3), then...
3. If the dimensions of a rectangle are 16 ft by 12 ft, then...
4. If the area of a rectangular ballroom is 3,000 square feet and one dimension of the room is 50 ft, then...
5. If an isosceles triangle has a perimeter of 20 cm, then...
6. If a parallelogram has a base of  $6\frac{1}{2}$  in and a height of  $3\frac{3}{4}$  in, then...
7. If a triangle has two interior angles that each measure  $45^\circ$ , then...
8. If one side of a rectangle with dimensions 5 m by 7 m doubles, then...
9. If the radius of a circle triples, then...
10. Write your own if, then statement about a topic in this unit.

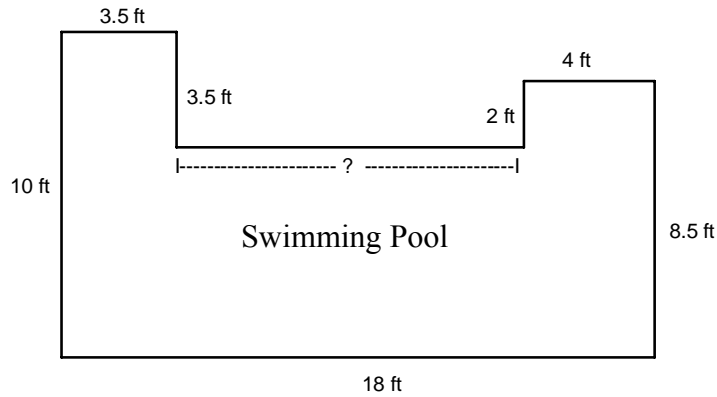
*Unit 6, Activity 1, House Plan*



## Unit 6, Activity 2, Pool & Hot Tub

Name: \_\_\_\_\_

The swimming pool that is to be put in a back yard has an irregular shape as shown below. A pool cover is needed to keep the leaves out this winter.



1. Find the area of the pool. All corners are  $90^\circ$ . Explain how you arrived at finding the area of the pool.

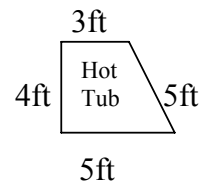
2. Pool covering material costs \$4.95 per square yard. How many square yards will we need and how much will the pool cover cost? Explain how you found the cost of the pool cover.

3. We also need to know the perimeter of the pool, so that we can buy bricks to go around the edge of the pool. Find the perimeter. Justify your answer.

4. Bricks are 6 inches long. How many bricks will we need to buy to put one row of bricks end to end around the pool? Justify your answer.

5. Bricks cost 60¢ each. How much will we spend on bricks? Explain and show how you determined the cost of the bricks.

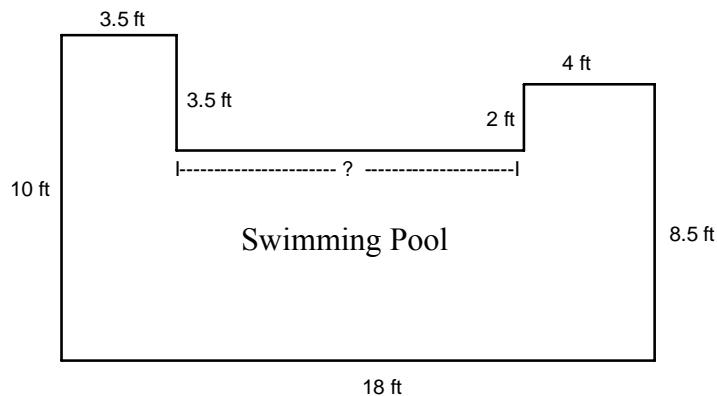
6. A hot tub in the shape of a trapezoid with the dimensions shown will be built along the right side of the pool and adjacent to the bricks. A top view of the hot tub is shown. Find the cost of making a cover for the hot tub.



7. Since the hot tub will be placed next to the swimming pool, the side with length 4 ft. will not be bricked. Find the cost of bricking the remaining three sides. Show all work for determining the cost of the cover and the bricks.

## Unit 6, Activity 2, Pool & Hot Tub with Answers

The swimming pool that is to be put in the back yard has an irregular shape as shown below. A pool cover is needed to keep the leaves out this winter.



1. Find the area of the pool. All corners are  $90^\circ$ . Explain how you arrived at finding the area of the pool.

$$\text{Divide the pool into smaller rectangles. } (3.5 \cdot 3.5) + (2 \cdot 4) + (6.5 \cdot 18) = 137.25 \text{ ft}^2$$

2. Pool covering material costs \$4.95 per square yard. How many square yards will we need and how much will the pool cover cost? Explain how you found the cost of the pool cover.

$$137.25(4.95) = \$679.39 \quad \text{or} \quad 138(4.95) = \$683.10$$

3. We also need to know the perimeter of the pool, so that we can buy bricks to go around the edge of the pool. Find the perimeter. Justify your answer.

$$? = 18 - 3.5 - 4 = 10.5 \text{ ft}$$

$$10.5 + 2 + 4 + 8.5 + 18 + 10 + 3.5 + 3.5 = 60 \text{ ft}$$

$$\text{Perimeter} = 60 \text{ ft}$$

4. Bricks are 6 inches long. How many bricks will we need to buy to put one row of bricks end to end around the pool? Justify your answer.

$$60 \text{ ft} = 720 \text{ inches}$$

$$720 \text{ inches} / 6 \text{ inches} = 120 \text{ bricks}$$

5. Bricks cost 60¢ each. How much will we spend on bricks? Explain and show how you determined the cost of the bricks.

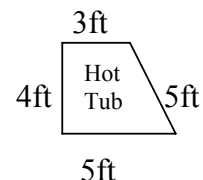
$$120 \text{ bricks } (\$0.60) = \$72$$

6. A hot tub in the shape of a trapezoid with the dimensions shown will be built along the right side of the pool and adjacent to the bricks. A top view of the hot tub is shown.

Find the cost of making a cover for the hot tub.

$$\text{Area} = \frac{1}{2} (4) (3 + 5) \quad \text{Area} = 16 \text{ ft}^2$$

$$\text{Cost} = 16 (4.95) \quad \text{Cost} = \$79.20$$



7. Since the hot tub will be placed next to the swimming pool, the side with length 4 ft. will not be bricked. Find the cost of bricking the remaining three sides. Show all work for determining the cost of the cover and the bricks.

$$\text{Perimeter} = 3 + 5 + 5$$

$$\text{Perimeter} = 13 \text{ ft}$$

$$13 \text{ ft} = 156 \text{ inches}$$

$$156 \text{ inches} / 6 \text{ inches} = 26 \text{ bricks}$$

$$26 \text{ bricks } (\$0.60) = \$15.60$$

## ***Unit 6, Activity 3, Measuring Scavenger Hunt***

Name: \_\_\_\_\_

	Measurement Descriptions	Object
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

## ***Unit 6, Activity 7, How Do I Compare?***

Name: \_\_\_\_\_

### **What Are Your Opinions About the U.S. and Metric Systems of Weight?**

**Directions:** After each statement, write SA (strongly agree), A (agree), D (disagree), or SD (strongly disagree). Then in the space provided, briefly explain the reasons for your opinions.

1. A restaurant-sized packet of sugar weighs more than a gram. \_\_\_\_\_

Your reasons:

2. A restaurant-sized packet of sugar weighs less than an ounce. \_\_\_\_\_

Your reasons:

3. A full-sized candy bar weighs more than 1 kilogram. \_\_\_\_\_

Your reasons:

4. A mathematics textbook weighs more than 2 kilograms. \_\_\_\_\_

Your reasons:

5. A toddler (3 year-old) weighs less than 5 kilograms. \_\_\_\_\_

Your reasons:

***Unit 6, Activity 1 Specific Assessment, Rubric***

A	<ul style="list-style-type: none"><li>✓ All mathematics is correct</li><li>✓ All answers are given and explained at each phase</li><li>✓ Math vocabulary is used correctly in the explanations</li><li>✓ Finished product is presented to the class with clear understanding of processes</li></ul>
B	<ul style="list-style-type: none"><li>✓ Only a minor error has been made in the mathematics (steps are correct, but a careless mistake has been made in the figuring)</li><li>✓ Math vocabulary is used correctly in the explanations</li><li>✓ All answers are given and explained at each phase</li><li>✓ Finished product is presented to the class with clear understanding of processes</li></ul>
C	<ul style="list-style-type: none"><li>✓ There are some math errors (incorrect steps are shown)</li><li>✓ Math vocabulary is used correctly in most explanations</li><li>✓ Answers for all questions are given and explained giving evidence there is some understanding although the answers may not be correct.</li><li>✓ Finished product is presented to the class but does not exhibit a clear understanding of processes</li></ul>
D	<ul style="list-style-type: none"><li>✓ There are many math errors</li><li>✓ Math vocabulary is used but mostly incorrectly</li><li>✓ There has been some effort made that reflects the problem situation.</li><li>✓ Finished product is presented to the class with little understanding of processes</li></ul>
U	<ul style="list-style-type: none"><li>✓ There is no understanding and no effort has been noted.</li></ul>

*Unit 7, Activity 5, How Do the Chips Fall?*

**Name:** \_\_\_\_\_

Chip Color	Theoretical Probability	Tally	Frequency	Experimental Probability
blue				
red				
green				

Compare each color's theoretical probability to its experimental probability. Describe your findings.

***Unit 7, Activity 7, Jumanji***

Name: \_\_\_\_\_

1. a. Create a list of the different ways two dice could land to create a sum.

b. How many ways are there?

2. Could the number of outcomes be found another way? Explain.

3. a. Find the theoretical probability of rolling each sum 2 through 12.

Sum	Theoretical probability	Experimental probability	Sum	Theoretical probability	Experimental probability
2			8		
3			9		
4			10		
5			11		
6			12		
7					

b. Roll the pair of dice 12 times and record the sum of the roll each time, then find the experimental probability of getting each sum and record it in the table.

4. Write 2 to 3 sentences to compare the experimental and theoretical probabilities of getting each sum.

**Unit 7, Activity 7, Jumanji**

5. Suppose the sums and events were those listed below. Write the *theoretical probability* that each misfortune will happen during the course of one game.

Sum	Result	Theoretical Probability	We would experience these things.
2	Spiders get inside the backpack		
3	Volcano erupts		
4	Monsoon season		
5	Guide gets lost		
6	Tsetse fly bites		
7	Lion attacks		
8	Monkeys eat all food		
9	Rhinoceros stampede		
10	Quicksand on trail		
11	Python sneaks into camp		
12	You find a short cut		

6. Using *experimental probability* you found earlier by rolling the 2 dice, check to see which of the misfortunes you and your partner would experience. Write it in the table.

7. How did this compare to the *theoretical probability*? Why do you think the results were like this?

**Unit 7, Activity 7, Jumanji with Answers**

Name: \_\_\_\_\_

1. a. Create a list of the different ways two dice could land to create a sum.

<i>1, 1</i>	<i>2, 1</i>	<i>3, 1</i>	<i>4, 1</i>	<i>5, 1</i>	<i>6, 1</i>
<i>1, 2</i>	<i>2, 2</i>	<i>3, 2</i>	<i>4, 2</i>	<i>5, 2</i>	<i>6, 2</i>
<i>1, 3</i>	<i>2, 3</i>	<i>3, 3</i>	<i>4, 3</i>	<i>5, 3</i>	<i>6, 3</i>
<i>1, 4</i>	<i>2, 4</i>	<i>3, 4</i>	<i>4, 4</i>	<i>5, 4</i>	<i>6, 4</i>
<i>1, 5</i>	<i>2, 5</i>	<i>3, 5</i>	<i>4, 5</i>	<i>5, 5</i>	<i>6, 5</i>
<i>1, 6</i>	<i>2, 6</i>	<i>3, 6</i>	<i>4, 6</i>	<i>5, 6</i>	<i>6, 6</i>

b. How many ways are there?     36

2. Could the number of outcomes be found another way? Explain.

*By using the fundamental counting principle.*

3. a. Find the theoretical probability of rolling each sum 2 through 12.

Sum	Theoretical probability	Experimental probability	Sum	Theoretical probability	Experimental probability
2	$1/36$		8	$5/36$	
3	$2/36 = 1/18$		9	$4/36 = 1/9$	
4	$3/36 = 1/12$		10	$3/36 = 1/12$	
5	$4/36 = 1/9$		11	$2/36 = 1/18$	
6	$5/36$		12	$1/36$	
7	$6/36 = 1/6$				

b. Roll the pair of dice 12 times, and record the sum of the roll each time; then find the experimental probability of getting each sum, and record it in the table.

4. Write 2 to 3 sentences to compare the experimental and theoretical probabilities of getting each sum.

**Unit 7, Activity 7, Jumanji with Answers**

5. Suppose the sums and events were those listed below. Write the *theoretical probability* that each misfortune will happen during the course of one game.

Sum	Result	Theoretical Probability	We would experience these things.
2	Spiders get inside the backpack		
3	Volcano erupts		
4	Monsoon season		
5	Guide gets lost		
6	Tsetse fly bites		
7	Lion attacks		
8	Monkeys eat all food		
9	Rhinoceros stampede		
10	Quicksand on trail		
11	Python sneaks into camp		
12	You find a short cut		

6. Using *experimental probability* you found earlier by rolling the 2 dice, check to see which of the misfortunes you and your partner would experience. Write it in the table.

7. How did this compare to the *theoretical probability*? Why do you think the results were like this?

## Unit 8, Activity 4, Dogs

A dog lover is going on a trip with his dog or dogs. The airline on which he/she is traveling allows each of its passengers to transport only one animal kennel with a maximum weight limit of 120 pounds. If the kennel weighs 20 pounds, name 10 different dogs the dog lover can take if he/she has one dog.

If the dog lover has more than one dog, determine the different combinations of dogs that he/she can take on the airplane.

<b>Breed of Dog</b>	<b>Height</b>	<b>Weight</b>
Airedale Terrier	23 inches	44 to 50 pounds
Alaskan Malamute	2 feet	75 to 85 pounds
American Cocker Spaniel	14 to 15 inches	26 to 34 pounds
Basset Hound	13 to 15 inches	40 to 60 pounds
Beagles	13-15 inches	20 to 40 pounds
Collies (males)	24 to 26 inches	50 to 75 pounds
Collies (females )	22 to 24 inches	50 to 75 pounds
Chihuahua	6 to 9 inches	2 to 6 pounds
Standard Dachshunds	5 to 10 inches	16 to 32 pounds
Miniature Dachshunds	6 inches	11 pounds or less
Doberman	24-28 inches	60 to 88 pounds
German Shepherd Dog	2 ft	75-95 pounds
Irish setter	25 to 27 inches	60 to 70 pounds
Labrador Retriever (males)	22 inches	67 pounds
Labrador Retriever (females)	21 to 22 inches	63 pounds
Mastiff	27.5 to 30 inches	175 to 190 pounds
Miniature Schnauzer	12 to 14 inches	13 to 15 pounds
Old English Sheepdog	22 to 24 inches	65 to 100 pounds
Pekingese	6 to 9 inches	7 to 12 pounds
Standard Poodle	over 15 inches	45 to 70 pounds
Miniature Poodle	10 to 15 inches	15-17 pounds
Toy Poodle	under 10 inches	6 to 9 pounds
Pug	10 to 11 inches	14 to 18 pounds
Rottweiler	22 to 27 inches	90 to 110 pounds
Scottish Terrier	14 to 15 1/2 inches	20 to 21 pounds
Siberian Husky	just under 2 feet	45 to 60 pounds
St. Bernard	24 to 28 inches	110 to 200 pounds
Yorkshire Terrier	9 inches	less than 7 pounds

### ***Unit 8, Activity 5, Exchange Rates***

Name: \_\_\_\_\_

I will be visiting \_\_\_\_\_ (fill in the country's name).

The currency in this country is the \_\_\_\_\_.

U.S. Dollars	Exchange Rate	Value in visiting Country
\$1		
\$5		
\$10		
\$20		
\$100		

Create a function machine to match the information in the chart above.