Unit 2, Activity 2, 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 they 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 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 1/3 of the 2 ¼ 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 a diagram and a mathematical sentence.

6. At the student council booth, a customer wanted to buy 1/3 of a pan that was 1/3 full. What fraction of the original pan of brownies did this person want? Explain with a 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 3/8 of a mile by 2/3 of a mile. How much land is this? (extension: How many square feet or yards would this be?)

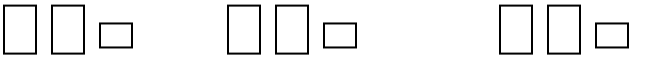
Unit 2, Activity 2, Multiplying Fractions with Answers

Name: _____ Date: _____

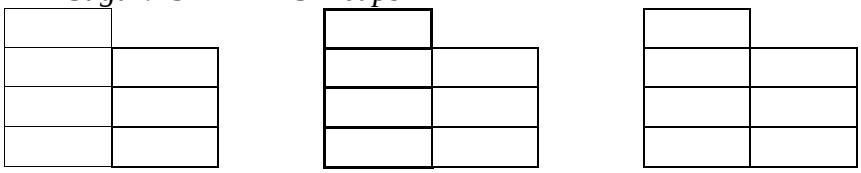
Situations involving multiplication of fractions. Show all of your thinking. Sample answers:

1. Each child wanted $\frac{1}{2}$ of a cookie cake. There were 24 children. How many cookie cakes do they need? Justify your answer.
   24 groups of ½ cake = 12 cakes
   If each child wants ½ of a cake, then each cake will feed two children. You will need 12 cakes.

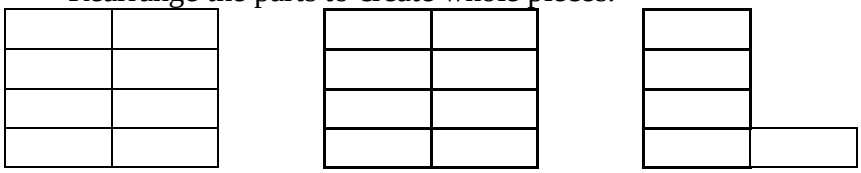
2. Susan needed to triple a recipe for cookies. The recipe called for $2\frac{1}{2}$ cups of flour and $1\frac{3}{4}$ cups sugar. How much of each will she need? Prove your answer. Explain how this problem illustrates multiplication of fractions.
   Flour: 3 x 2 ½ = add three groups of two and a half = 7 ½ cups



Sugar: 3 x 1¾ = 5¼ cups

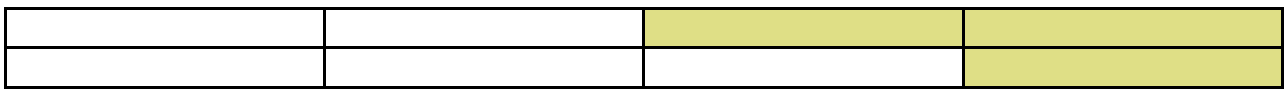


Rearrange the parts to create whole pieces.

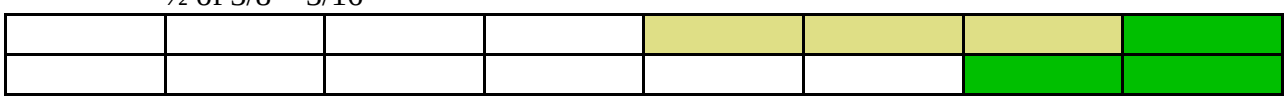


3. Monica's mom said that it takes $\frac{3}{8}$ of a yard of fabric to make an apron but it will only take $\frac{1}{2}$ of that amount to make a kitchen towel. How much fabric will it take to make a kitchen towel? How does this problem illustrate multiplication of fractions? Explain.

3/8



½ of 3/8 = 3/16



4. Brittany wanted to give each of her 5 friends a friendship bracelet. Each bracelet takes 2/5 of a bag of beads. How many bags of beads does she need? Explain with a 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 1/3 of the 2 ¼ 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 a 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 1/3 of a pan that was 1/3 full. What fraction of the original pan of brownies did this person want? Explain with diagram and a mathematical sentence.

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

8. 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 3/8 of a mile by 2/3 of a mile. How much land is this? (extension: How many square feet or yards would this be?)

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

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

$5 \div \frac{2}{3} = \frac{5}{1} \times \frac{3}{2} = 7\frac{1}{2}$ *Since this situation has no question, ask students what 7 ½ stands for (the number of people that can have* $\frac{2}{3}$ *of a pizza). The discussion should then take place about the remainder of ½ since you can't have ½ of a person.*

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?

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

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?

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

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?

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

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.

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

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?

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

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 5, 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 ÷ 0.50 = 50

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

25 ÷ 0.25 = 100

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

25 ÷ 0.10 = 250

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

25 ÷ 0.05 = 500

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

25 ÷ 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 ÷ 0.50 = 1

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

0.50 ÷ 0.25 = 2

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

0.50 ÷ 0.10 = 5

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

0.50 ÷ 0.05 = 10

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

0.50 ÷ 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 ÷ 1 = 0.25

Unit 2, Activity 6, 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 5th 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 3

numbers to be used _____ _____ _____ _____

Pick a 5th 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

Name_____ Date_____

Let's Figure It!

Situations with rational numbers. Show all work.

1. On a certain test, each correct answer scores 5 points, each incorrect answer scores -2 points, and each unanswered question scores 0 points. Suppose a student answers 15 questions correctly, 4 incorrectly, and does not answer 1 question. What is the student's final score?

2. Suppose a play shot a -5, +2, -3, and -2 in four rounds of a golf tournament. What was the player's final score?

3. Joseph and David had identical boxes of candy with 24 pieces of candy in the box. Joseph ate ½ of his box before lunch and then 4 pieces after lunch. David ate ¾ of his box at one time. Who has the most candy left in his box?

4. The Junior Beta Convention is being held in Lafayette. There are 120 students at the conference. Of all of the students at the conference, $\frac{1}{2}$ are from Louisiana. Of the remaining students, $\frac{1}{5}$ are from Mississippi and $\frac{1}{4}$ are from Arkansas. All others are from Texas. How many students are from Texas?

5. There were 1500 travelers that flew out of New Orleans, LA to cities outside the country. 25% of these travelers flew to London, 28% flew to Rome, 36% flew to Paris, and 11% flew to Madrid. How many travelers flew to each city outside the country?

Name_____ Date_____

Let's Figure It!

Situations with rational numbers. Show all work.

1. On a certain test, each correct answer scores 5 points, each incorrect answer scores -2 points, and each unanswered question scores 0 points. Suppose a student answers 15 questions correctly, 4 incorrectly, and does not answer 1 question. What is the student's final score?

Answer: 15(5) + 4(-2) + 0 = 75 + (-8) = 67 points

2. Suppose a play shot a -5, +2, -3, and -2 in four rounds of a golf tournament. What was the player's final score?

Answer: 8 under par (-8)

3. Joseph and David had identical boxes of candy with 24 pieces of candy in the box. Joseph ate ½ of his box before lunch and then 4 pieces after lunch. David ate ¾ of his box at one time. Who has the most candy left in his box?

Answer: Joseph has 8 pieces left and David has 6 pieces left. Joseph has the most left.

4. The Junior Beta Convention is being held in Lafayette. There are 120 students at the conference. Of all of the students at the conference, $\frac{1}{2}$ are from Louisiana. Of the remaining students, $\frac{1}{5}$ are from Mississippi and $\frac{1}{4}$ are from Arkansas. All others are from Texas. How many students are from Texas?

Answer: 33 students are from Texas

5. There were 1500 travelers that flew out of New Orleans, LA to cities outside the country. 25% of these travelers flew to London, 28% flew to Rome, 36% flew to Paris, and 11% flew to Madrid. How many travelers flew to each city outside the country?

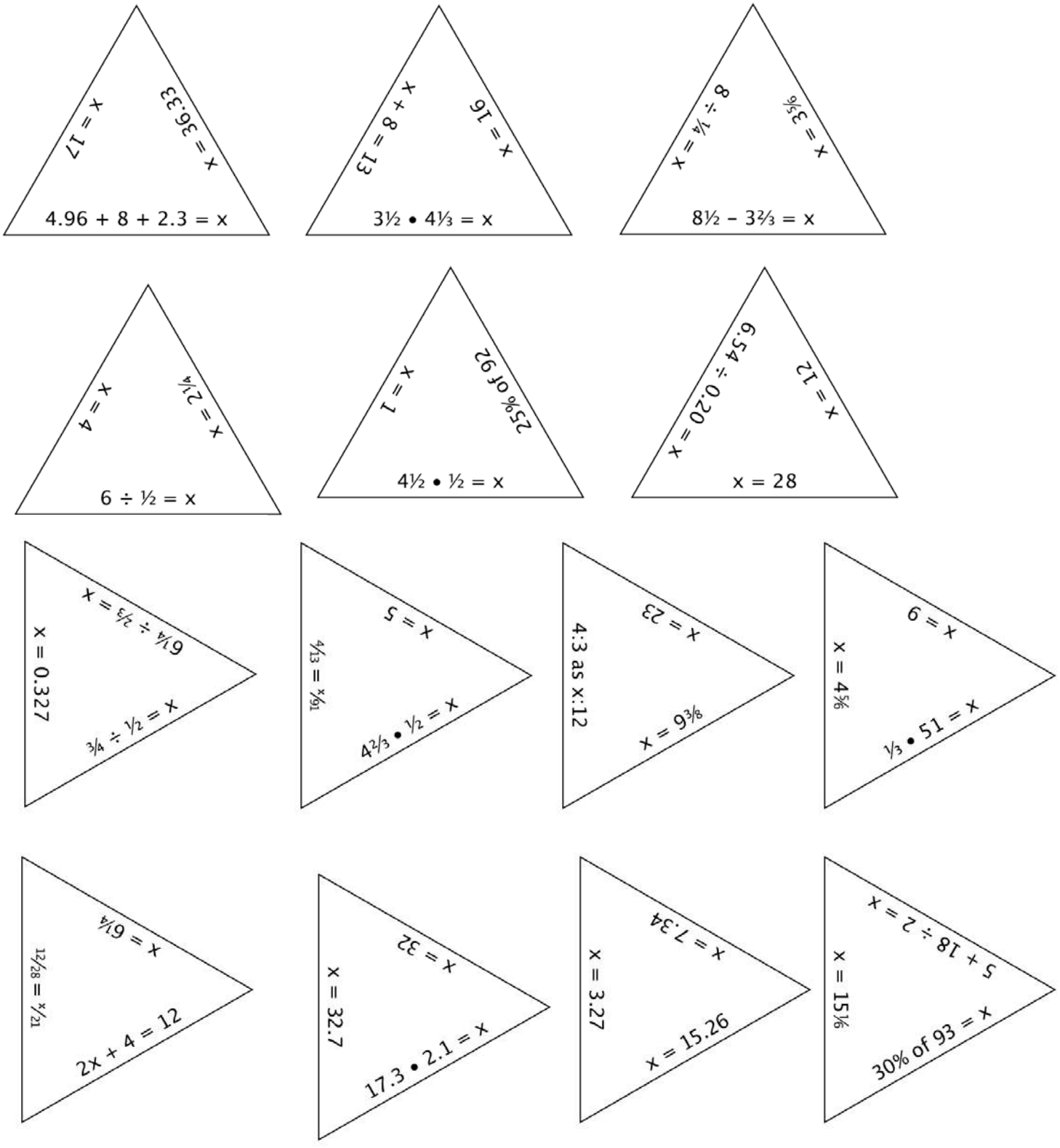
Answer: 375 travelers flew to London, 420 flew to Rome, 540 flew to Paris, and 165 flew to Madrid

$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
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

( )	÷	÷
( )	÷	÷
( )	÷	÷
( )	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.



-5	-5	-5	-5	-5	-5
-4	-4	-4	-4	-4	-4
-3	-3	-3	-3	-3	-3
-2	-2	-2	-2	-2	-2
-1	-1	-1	-1	-1	-1
0	0	0	0	0	0

1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5

Name_____ **Date**_____

Which Direction?

Round 1:

Integer cards drawn: _____, _____, _____ Operations rolled: _____, _____

Student 1: Number sentence:

Describe your action in words: _____

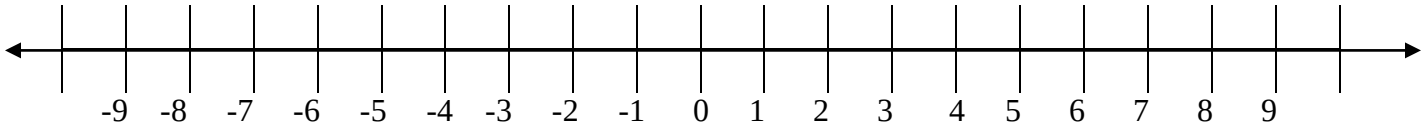
Student 2: Show how to model the first part of the number sentence on the number line and describe your action in words: _____

Student 3: Show how to model the next part of the number sentence on the number line and describe your action in words: _____

Student 4: Describe in words below whether or not your problem helps to prove the statement, "Subtracting 2 from a number is the same as adding -2 to a number."

_____

_____



Round 2:

Integer cards drawn: _____, _____, _____ Operations rolled: _____, _____

Student 1: Number sentence:

Describe your action in words: _____

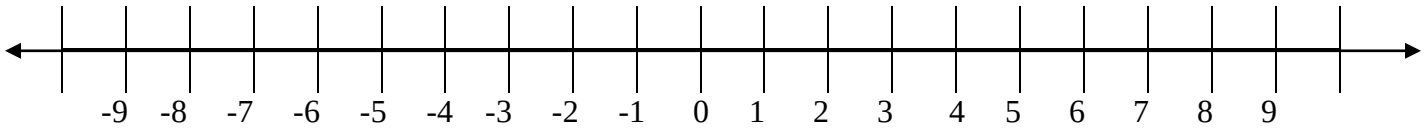
Student 2: Show how to model the first part of the number sentence on the number line and describe your action in words: _____

Student 3: Show how to model the next part of the number sentence on the number line and describe your action in words: _____

Student 4: Describe in words below whether or not your problem helps to prove the statement, "Subtracting 2 from a number is the same as adding -2 to a number."

_____

_____



Round 3:

Integer cards drawn: _____, _____, _____ Operations rolled: _____, _____

Student 1: Number sentence:

Describe your action in words: _____

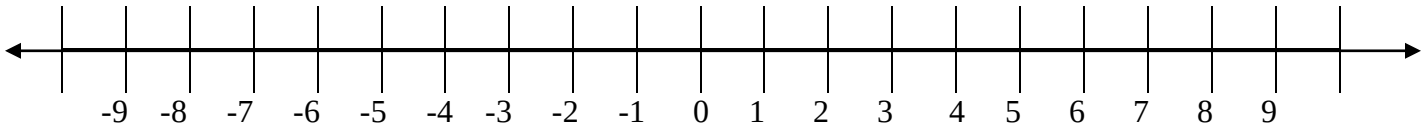
Student 2: Show how to model the first part of the number sentence on the number line and describe your action in words: _____

Student 3: Show how to model the next part of the number sentence on the number line and describe your action in words: _____

Student 4: Describe in words below whether or not your problem helps to prove the statement, "Subtracting 2 from a number is the same as adding -2 to a number."

_____

_____



Round 4:

Integer cards drawn: _____, _____, _____ Operations rolled: _____, _____

Student 1: Number sentence:

Describe your action in words: _____

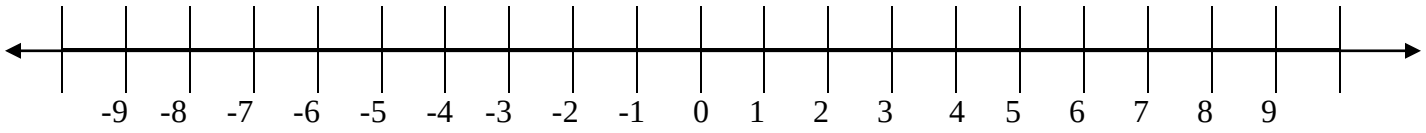
Student 2: Show how to model the first part of the number sentence on the number line and describe your action in words: _____

Student 3: Show how to model the next part of the number sentence on the number line and describe your action in words: _____

Student 4: Describe in words below whether or not your problem helps to prove the statement, "Subtracting 2 from a number is the same as adding -2 to a number."

_____

_____



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	≤ 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.

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.

A The seventh graders are planning to sell cups of hot chocolate at the basketball games this winter.	A If 6 spoonfuls of mix make a cup of hot chocolate.	A How many spoonfuls of mix will be needed to make 42 cups of hot chocolate?
B Jared has an economy car. He figures that it costs him $30 to make a trip of 120 miles.	B 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.	B How many miles can the sister travel for the cost of $18.00?
C A certain recipe calls for 2 teaspoons of vanilla and 1/3 cup of oil.	C You want to make a large batch of brownies for your class using 10 $\frac{1}{2}$ cups of oil.	C How much vanilla would you need?
D 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.	D Miranda can paint 3 business windows for the upcoming football game in 2 hours.	D How long will it take her to paint 10 business windows?

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

K Shawna is marching in a parade down Ryan Street in Lake Charles with the band.	K A drawing of Lake Charles uses a scale of 1 cm = 2 miles. On the drawing, the length of Ryan Street is 2.5 cm.	K What is the actual length of Ryan Street?
L Sue and James are standing together in a photograph.	L Sue is 5 feet tall and James is 6 feet tall. In the photograph, James is 3 $\frac{1}{2}$ cm tall.	L How tall is Sue in the photograph?
M Nelly wants to compete for the Physical Fitness Award in race-walking.	M 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.	M How many hours would it take to race-walk a total of 200 miles at a rate of 12 miles per minute?

A. 252 spoonfuls

B. Since Jared spends $30.00 to go 120 miles, it costs him $0.25 to go one mile. His sister spends $0.05 more to go one mile, so she spends $0.30 per mile. Dividing $18.00 by $0.30 gives you 60 miles that his sister can travel.

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 ½ 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 15, 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 ($\frac{small}{large}$)**
Ankle to knee	Total height	
Wrist to elbow	Index finger to shoulder	
Chin to top of head	Waist to chin	
Tip of nose to top of head	Chin to top of head	

1. Compare your measurement results with your partners. 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 waist is 100 cm off the ground?

   B. What is the approximate height of a person if the distance from his/her waist to the top of his/her head measures 57 cm?

   C. Michael Jordan is about 6 feet 7 inches. What would be his index finger to shoulder measurement?

Unit 2, Activity 16, 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	Proportion used to find the measurement on Gianormus	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 Earth	Proportion used to find the measurement on Lilliputian	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.

Name _____ Date _____ Hour _____

Complete each of the following situations:

1. Draw a diagram of a rectangular bedroom with dimensions of 24 feet by 15 feet. Use a scale of $\frac{1}{2}$ inch = 6 feet.

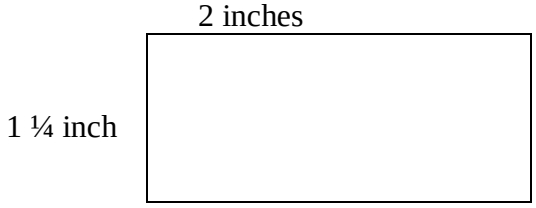
2. Sandy was given the assignment during a summer job to draw a map from the city recreational complex to the high school. Sandy started from the recreational complex and walked north 3.5 miles, west 10 miles, north 5.3 miles, and then east 3 miles. Sandy was given a space $3\frac{1}{2}$ inches x 4 inches to sketch the route on a brochure being made by the staff at the complex. Determine a scale that Sandy will be able to use and draw a map that can be used in the space provided. Explain how the scale was determined.

3. The picture of the amoeba at the right shows a width of 2 centimeters. If the actual amoeba's length is 0.005 millimeter, what is the scale of the drawing?

Unit 2, Activity 18, Scale Drawings with Answers

Complete each of the following situations:

1. Draw a diagram of a rectangular bedroom with dimensions of 24 feet by 15 feet. Use a scale of $\frac{1}{2}$ inch = 6 feet.



2. Sandy was given the assignment during a summer job to draw a map from the city recreational complex to the high school. Sandy started from the recreational complex and walked north 3.5 miles, west 10 miles, north 5.3 miles, and then east 3 miles. Sandy was given a space $3\frac{1}{2}$ inches x 4 inches to sketch the route on a brochure being made by the staff at the complex. Determine a scale that Sandy will be able to use and draw a map that can be used in the space provided. Explain how the scale was determined.

   North 3.5 miles + 5.3 miles = 8 . 8 miles
   West 10 miles and east 3 miles, so she needs to show 10 miles east-west.

   If 1 inch represents 3 miles, then the map can be centered on the brochure with margins between ¾ and 1 inch. If 1 inch represents 2.75 miles, then there will be a margin of about ½ inch around the map.

3. The picture of the amoeba at the right shows a width of 2 centimeters. If the actual amoeba's length is 0.005 millimeter, what is the scale of the drawing?

   1 cm = 10 mm so .1 cm = 1 mm and 2 cm = 20 mm