Name : _____ Score : _____

Teacher : _____ Date : _____

Reducing Fractions

1) $\frac{28}{40}$ = ____

2) $\frac{6}{12}$ = ____

3) $\frac{12}{16}$ = ____

4) $\frac{16}{32}$ = ____

5) $\frac{3}{21}$ = ____

6) $\frac{60}{70}$ = ____

7) $\frac{24}{48}$ = ____

8) $\frac{7}{28}$ = ____

9) $\frac{7}{14}$ = ____

10) $\frac{24}{36}$ = ____

11) $\frac{10}{50}$ = ____

12) $\frac{70}{80}$ = ____

13) $\frac{56}{70}$ = ____

14) $\frac{16}{24}$ = ____

15) $\frac{8}{16}$ = ____

16) $\frac{8}{24}$ = ____

17) $\frac{24}{64}$ = ____

18) $\frac{9}{45}$ = ____

19) $\frac{2}{4}$ = ____

20) $\frac{4}{8}$ = ____

21) $\frac{14}{63}$ = ____

22) $\frac{7}{28}$ = ____

23) $\frac{4}{28}$ = ____

24) $\frac{10}{30}$ = ____

25) $\frac{18}{90}$ = ____

26) $\frac{9}{12}$ = ____

27) $\frac{21}{35}$ = ____

28) $\frac{14}{18}$ = ____

29) $\frac{16}{48}$ = ____

30) $\frac{25}{35}$ = ____

Name : _____ Score : _____

Teacher : _____ Date : _____

Adding Fractions

1) $\frac{1}{5} + \frac{3}{4} + \frac{1}{3} =$

2) $\frac{1}{3} + \frac{3}{4} + \frac{1}{5} =$

3) $\frac{4}{5} + \frac{2}{3} + \frac{7}{10} =$

4) $\frac{1}{2} + \frac{3}{10} + \frac{4}{5} =$

5) $\frac{1}{2} + \frac{6}{10} + \frac{1}{5} =$

6) $\frac{3}{4} + \frac{1}{2} + \frac{1}{10} =$

7) $\frac{9}{10} + \frac{2}{3} + \frac{3}{4} =$

8) $\frac{2}{4} + \frac{1}{2} + \frac{4}{10} =$

9) $\frac{1}{2} + \frac{2}{5} + \frac{3}{4} =$

10) $\frac{2}{5} + \frac{2}{10} + \frac{1}{2} =$

Name : _____ Score : _____

Teacher : _____ Date : _____

Subtracting Mixed Numbers

1) $5\frac{5}{28} - 3\frac{4}{14} =$

2) $6\frac{6}{7} - 1\frac{10}{21} =$

3) $5\frac{2}{11} - 1\frac{1}{22} =$

4) $5\frac{1}{8} - 4\frac{2}{16} =$

5) $5\frac{3}{4} - 4\frac{2}{14} =$

6) $6\frac{7}{26} - 4\frac{3}{13} =$

7) $6\frac{2}{22} - 2\frac{9}{11} =$

8) $8\frac{7}{14} - 4\frac{1}{7} =$

9) $5\frac{1}{3} - 3\frac{1}{4} =$

10) $5\frac{11}{14} - 4\frac{4}{28} =$

Name : _____ Score : _____

Teacher : _____ Date : _____

Multiplying Fractions with Cross Canceling

1) $\frac{1}{3} \times \frac{5}{6} =$

2) $\frac{1}{3} \times \frac{15}{18} =$

3) $\frac{8}{18} \times \frac{17}{20} =$

4) $\frac{5}{10} \times \frac{4}{5} =$

5) $\frac{2}{4} \times \frac{1}{6} =$

6) $\frac{13}{20} \times \frac{1}{4} =$

7) $\frac{3}{7} \times \frac{10}{14} =$

8) $\frac{7}{10} \times \frac{13}{15} =$

9) $\frac{2}{5} \times \frac{9}{18} =$

10) $\frac{3}{16} \times \frac{1}{2} =$

Name : _____ Score : _____

Teacher : _____ Date : _____

Dividing Fractions

1) $\frac{2}{5} \div \frac{3}{4} =$

2) $\frac{2}{5} \div \frac{6}{16} =$

3) $\frac{2}{4} \div \frac{6}{8} =$

4) $\frac{5}{9} \div \frac{2}{12} =$

5) $\frac{1}{15} \div \frac{6}{7} =$

6) $\frac{4}{7} \div \frac{10}{15} =$

7) $\frac{4}{7} \div \frac{5}{14} =$

8) $\frac{3}{8} \div \frac{5}{10} =$

9) $\frac{4}{8} \div \frac{6}{7} =$

10) $\frac{9}{12} \div \frac{1}{2} =$

Mean, Median, Mode, and Range Definitions

Mean :

The "Mean" is computed by adding all of the numbers in the data together and dividing by the number elements contained in the data set.

Example :

Data Set = 2, 5, 9, 3, 5, 4, 7

Number of Elements in Data Set = 7

Mean = (2 + 5 + 9 + 7 + 5 + 4 + 3) / 7 = 5

Median :

The "Median" of a data set is dependant on whether the number of elements in the data set is odd or even. First reorder the data set from the smallest to the largest then if the number of elements are odd, then the Median is the element in the middle of the data set. If the number of elements are even, then the Median is the average of the two middle terms.

Examples : Odd Number of Elements

Data Set = 2, 5, 9, 3, 5, 4, 7

Reordered = 2, 3, 4, 5, 5, 7, 9
^

Median = 5

Examples : Even Number of Elements

Data Set = 2, 5, 9, 3, 5, 4

Reordered = 2, 3, 4, 5, 5, 9
^ ^

Median = (4 + 5) / 2 = 4.5

Mean, Median, Mode, and Range Definitions

Mode :

The "Mode" for a data set is the element that occurs the most often. It is not uncommon for a data set to have more than one mode. This happens when two or more elements occur with equal frequency in the data set. A data set with two modes is called bimodal. A data set with three modes is called trimodal.

Examples : Single Mode

Data Set = 2, 5, 9, 3, 5, 4, 7

Mode = 5

Examples : Bimodal

Data Set = 2, 5, 2, 3, 5, 4, 7

Modes = 2 and 5

Examples : Trimodal

Data Set = 2, 5, 2, 7, 5, 4, 7

Modes = 2, 5, and 7

Range :

The "Range" for a data set is the difference between the largest value and smallest value contained in the data set. First reorder the data set from smallest to largest then subtract the first element from the last element.

Examples :

Data Set = 2, 5, 9, 3, 5, 4, 7

Reordered = 2, 3, 4, 5, 5, 7, 9

Range = (9 - 2) = 7

Name : _____ Score : _____

Teacher : _____ Date : _____

Mean, Mode, Median, and Range

1) 14, 13, 20, 14, 20, 15, 16

Mean ____ Median ____ Mode _____ Range ____

2) 15, 6, 14, 11, 19

Mean ____ Median ____ Mode _____ Range ____

3) 10, 10, 9, 11, 5, 6, 10, 9, 6, 14

Mean ____ Median ____ Mode _____ Range ____

4) 17, 19, 15, 10, 9

Mean ____ Median ____ Mode _____ Range ____

5) 16, 13, 7, 16, 15, 17, 14

Mean ____ Median ____ Mode _____ Range ____

6) 13, 13, 19, 7, 9, 20, 20, 19

Mean ____ Median ____ Mode _____ Range ____

7) 7, 9, 15, 16, 6, 14, 9, 14, 18

Mean ____ Median ____ Mode _____ Range ____

8) 20, 7, 11, 14, 16, 10, 12, 6

Mean ____ Median ____ Mode _____ Range ____

9) 8, 7, 17, 12, 15, 7

Mean ____ Median ____ Mode _____ Range ____

10) 17, 17, 14, 19, 14, 9

Mean ____ Median ____ Mode _____ Range ____

MINI MATH MYSTERY

THE MISSING TEACHER

DIRECTIONS

A teacher has been kidnapped. As a private math inspector, it is your job to determine who the villain is. Solve the math problems below, then use your answer to eliminate the clues on the right and solve the mystery.

		Answer			Answer
1.	$(2+6)\times10=$		2.	$35\div(15-8)=$	
3.	$5+3\times2=$		4.	$12+(3\times5)=$	
5.	$(12+8)\div2=$		6.	$2\times(9-6)=$	
7.	$4+15\div3=$		8.	$(3\times2)+6=$	
9.	$8+3\times6=$		10.	$4\times2-8=$	
11.	$16-3\times4=$		12.	$6\times2+4=$	
13.	$35\div(19-14)=$		14.	$(10+2)\times5=$	
15.	$8\times6-8=$		16.	$2\times(3\times4)=$	
17.	$4+5\times7=$		18.	$15+6\div3=$	
19.	$8+9\times3=$		20.	$32-6\times4=$	
21.	$4\times(20-8)=$		22.	$36\div6+8=$	
23.	$27\div(16-7)=$		24.	$8+7\times3=$	

The Villain is...

Person	
Lamia Lawson	9
Kage Knight	5
Caym Smith	4
Colton Danger	20
Bronwen Barlow	12
Damballa Trevino	35
Sidero Sideshow	7
Gorgon Howe	14
Kalaraja Kelly	24
Mary Winter	3
Semele Stephens	80
Dwade Dagger	10
Valdis Walker	16
Layla Clayton	29
Samara Varas	0
Brenna Jones	40
Draven Robinson	11
Damian Baird	8
Anpu Gould	17
Lola Aguirre	6
Nox Wilson	48
Simon Smartie	27
Harold Hinter	39
Kelly Jamieson	26
Toby Wyatt	60

MINI MATH MYSTERY

THE MISSING PHONE

DIRECTIONS

A friend has had their phone stolen. As a private math inspector, it is your job to determine who the thief is. Solve the math problems below, then use your answer to eliminate the clues on the right and solve the mystery.

		Answer
1.	(5 + 4) x 4 =	
2.	3 × 10 − 4 =	
3.	6 x 3 + 5 =	
4.	5 + 18 ÷ 6	
5.	16 − 4 ÷ 4 =	
6.	6 × 7 + 13 =	
7.	3 x (2 + 8) =	
8.	6 + 15 ÷ 3 =	
9.	15 ÷ 3 x 4 =	
10.	3 + 15 ÷ 5 =	
11.	(9 − 2) x 8 =	
12.	6 x 7 + 3 =	
13.	(9 + 9) ÷ 2 =	
14.	10 + 4 x 2 =	
15.	3 × (5 + 6) =	
16.	6 − 10 ÷ 5 =	
17.	2 x 8 − 4 =	
18.	5 x (20 − 10) =	
19.	8 + 16 ÷ 2 =	
20.	25 - 5 ÷ 5 =	
21.	10 − 9 ÷ 3 =	
22.	4 × 5 − 3 =	
23.	4 × 5 + 8 =	
24.	(5 + 3) ÷ 4 =	

The Villain is...

Person	
Lamia Lawson	30
Kage Knight	9
Caym Smith	6
Colton Danger	4
Bronwen Barlow	23
Damballa Trevino	28
Sidero Sideshow	11
Gorgon Howe	18
Kalaraja Kelly	26
Mary Winter	14
Semele Stephens	20
Dwade Dagger	17
Valdis Walker	7
Layla Clayton	8
Samara Varas	36
Brenna Jones	56
Draven Robinson	12
Damian Baird	24
Anpu Gould	2
Lola Aguirre	15
Nox Wilson	45
Simon Smartie	50
Harold Hinter	33
Kelly Jamieson	55
Toby Wyatt	16

Name : _____ Score : _____

Teacher : _____ Date : _____

Ratios and Rates

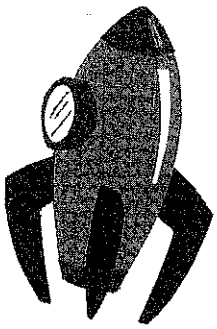
Express each phrase as a rate and unit rate.
(Round your answer to the nearest hundredth.)

	Rate	Unit Rate
1) 7 batteries cost 25 dollars	$25 / 7 batteries	$3.57 per battery
2) 4 calculators cost $150.00	_____	_____
3) 6 pencils for 9 dollars	_____	_____
4) 5 movie tickets cost $30.00	_____	_____
5) 14 dollars for 5 books	_____	_____
6) 150 miles on 7 gallons of gas	_____	_____
7) 5 dollars for 4 cans of tuna	_____	_____
8) 15 chocolate bars cost 15 dollars	_____	_____
9) mowed 6 yards for $40.00	_____	_____
10) 10 inches of snow in 6 hours	_____	_____

Performance Task 1

Name _____

Summer Vacation: Year 2995



1 Yolanda and her family are voyaging to the edge of the Milky Way for summer vacation. But she still has to do her summer math project! To start the assignment, Yolanda records the distance the spaceship traveled since breakfast.

7,837,927,457 miles

A. Write the value of each 7. If Yolanda starts with the 7 in the ones place, how could she get numbers equal to the values of the other 7s?

B. HANK, the family robot, printed some decimals for Yolanda.

Write each in standard form. Then order them from greatest to least.

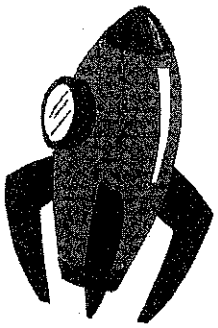
six hundred eighty-three thousandths
$(7 \times \frac{1}{10}) + (8 \times \frac{1}{100})$
$(6 \times \frac{1}{10}) + (1 \times \frac{1}{100}) + (8 \times \frac{1}{1000})$
seven hundred eight thousandths

C. HANK gives Yolanda another task. He asks her to round each decimal in problem **B** above to the nearest tenth.

Performance Task 1

Name _____

A Handy Helper



2 Yolanda's brother George also has to keep up with his summer math project. When George sits down with HANK, the robot prints some incomplete multiplication sentences.

A. Help George complete the multiplication sentences below. Then describe the pattern. Write the next multiplication sentence in the pattern.

30 × 20 = _____

3_____ × 20 = 6,000

3,000 × 20 = _____

3_____ × 20 = 600,000

Yolanda and George's home on Earth has a greenhouse with 68 tomato plants. Last week HANK told the greenhouse computer to give each tomato plant 284 mL of water. This week HANK told the greenhouse computer to give each tomato plant 307 mL of water.

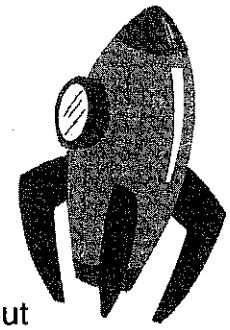
B. How much water did the tomato plants get in all?

C. Next week each tomato plant will need 20 mL more than half the water it got this week. Write an expression for the direction HANK might give to the greenhouse computer.

Performance Task 1

Space Travel Nutrition

Name _____



3 A member of the space ship crew checks the supply of fruit snacks. He notices that there are 15,481 fruit snacks left in the holding bin of the ship. Unfortunately, he also sees that space mice have munched on 1,128 of the snacks. There are 47 people on the spaceship. Each person gets one fruit snack each day.

A. How long can the voyage continue before the space ship runs out of fruit snacks?

Here are some strategies you can use.

- Draw an array.
- Draw an area model.
- Multiply to divide.
- Break apart the dividend.

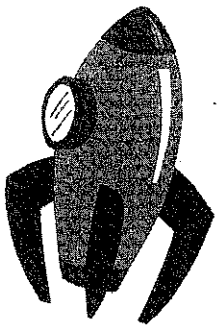
Twice a day, each of the 47 people on the spaceship takes a vitamin capsule. They also take a mineral capsule at breakfast, lunch, and dinner, however 12 people do not take these mineral capsules.

B. Write an expression for the total number of capsules taken each day. Evaluate your expression.

Performance Task 1

Space Hobbies

Name _____



4 George is working on his miniature magnetic train. The rocket locomotive is $\frac{7}{8}$ inch long. George attaches a meteor car that is $\frac{2}{3}$ inch long. Then he attaches a Martian cattle car that is $\frac{5}{6}$ inch long.

A. How long is the magnetic train now? Write your answer in simplest form.

Yolanda is making a model of a galaxy worm. The worm's head is $2\frac{1}{2}$ meters long. She decides that is too long, so she cuts $\frac{3}{4}$ meter off. Then Yolanda attaches the worm's tail, which is $3\frac{3}{5}$ meters long.

B. How long is the galaxy worm? Write your answer in simplest form.

C Performance Task 2

The Golden Crust Pizzeria

Name _____

1 Vincent is a waiter at his family's pizzeria, The Golden Crust. This restaurant is known for its large vegetarian-style rectangular pizzas. It is no surprise that many patrons take home some of their leftover pizza.

A. The Dozzo family has $\frac{4}{5}$ of the asparagus pizza left over from their dinner. Mr. Dozzo wants to take home $\frac{3}{4}$ of it. Will Vincent give him less than $\frac{4}{5}$ pizza, more than $\frac{4}{5}$ pizza, or $\frac{4}{5}$ pizza? Explain.

B. Mr. Benvenuto loves the broccoli pizza. There are $1\frac{1}{2}$ broccoli pizzas left from his family's dinner. Mr. Benvenuto tells Vincent he only wants $\frac{2}{3}$ of the broccoli pizzas to take home. How much pizza will Vincent give him?

- Draw a diagram.
- Write a multiplication sentence.

Performance Task 2

Name _____

A Most Important Ingredient

3 Vincent gets three packages of fresh mozzarella from the refrigerator. The first package weighs 0.84 pound. The second package weighs 1.37 pounds. The third package lost its label. Vincent weighs the three packages together and finds the total weight is 4.3 pounds.

A. How much does the third package of mozzarella weigh?

Here are some strategies you can use.

- Use ones flats, tenths rods, and hundredths cubes.
- Draw models.
- Use properties of addition.
- Use place value.

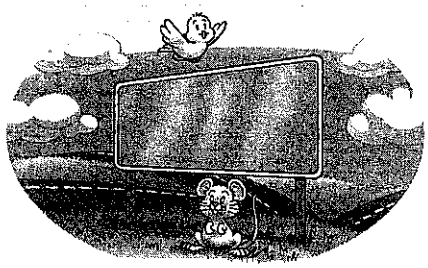
Terry is making three pizzas with ricotta cheese. She starts with 2.14 pounds of ricotta. She puts 0.45 pound of ricotta on a large pizza. She puts 0.28 pound of ricotta on a medium pizza. And she puts 0.14 pound of ricotta on a small pizza.

B. Estimate how much ricotta Terry put on the three pizzas. Calculate how much ricotta Terry has left.

Performance Task 3

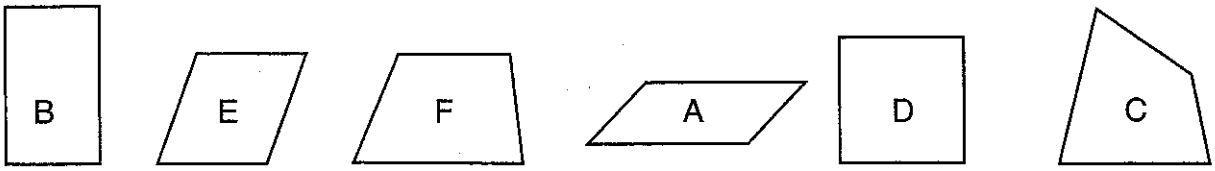
Sorento Signs, Inc.

Name _____



1 Teresa works for Sorento Signs, a family-owned company that makes all kinds of signage for schools, cities, and businesses.

A. Help Teresa classify the signs below by completing the table and writing the names of the polygons. Then write the letter of each sign in **one** category. Be careful—some signs fit in more than one category!



Polygon	Sides	Angles	Sign
_____	4 sides		_____
_____	just 1 pair of parallel sides		_____
_____	2 pairs of parallel, congruent sides		
_____	2 pairs of parallel, congruent sides	4 right angles	_____
_____	2 pairs of parallel sides; all 4 sides congruent		_____
_____	2 pairs of parallel sides; all 4 sides congruent	4 right angles	_____

B. How else could sign D be classified?

_____

C. How else could be sign E be classified?

_____

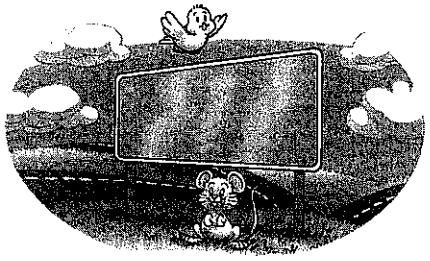
D. How else could sign F be classified?

_____

Performance Task 3

Name _____

Painting Signs



2 Fred is a sign painter at Sorento Signs. Today he has to paint 3 red signs. The first sign will take 7 pints of paint. The second sign will take 4 quarts of paint. The third sign will take 6 cups of paint. Once Fred knows what paint color, or colors, all the signs will be, he goes to the storage warehouse to get the paint. In this situation, he only needs the color red.

A. Determine whether Fred should get a 1-gallon can, a 2-gallon can, or a 3-gallon can of red paint from the warehouse.

Think
2 cups = 1 pint
2 pints = 1 quart
4 quarts = 1 gallon

Fred climbs 2.3 meters up a ladder to paint a sign. Then he moves down the ladder 500 millimeters to do some more painting. Finally he climbs 75 centimeters back up the ladder to finish the painting.

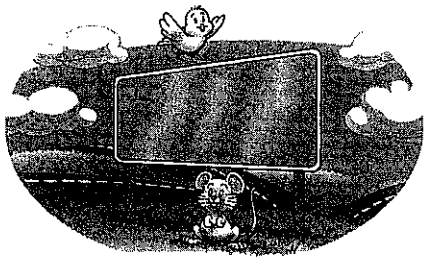
B. How many meters off the ground is Fred when he finishes the painting of this sign?

Think
1 m = 1,000 mm
1 m = 100 cm

Performance Task 3

The Area of Signs

Name _____



3 Teresa is making a rectangular sign for a health club. The sign will be $\frac{1}{4}$ yard wide and $\frac{4}{5}$ yard long.

A. Fred tells Teresa he has enough paint to cover $\frac{1}{8}$ square yard of the health club's sign. Will Fred need more paint to complete the painting of this sign? Explain.

Here are some strategies you can use.
- Draw a diagram.
- Use the formula for area.

Think
$A = \ell \times w$

Sorento Signs got an additional order from the health club for two more signs. The first sign will be a rectangle that measures $12\frac{1}{2}$ feet long and $4\frac{2}{5}$ feet wide. The second sign will be a square with sides that measure $7\frac{1}{2}$ feet.

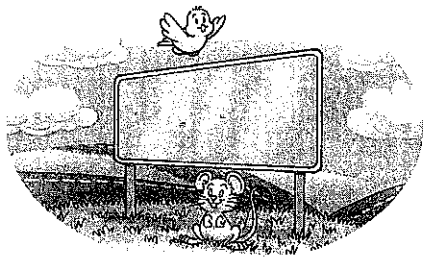
B. How many square feet will Fred need to paint in all?

C Performance Task 3

Unique Designs

Name _____

4 Teresa is making a sign for a pet store that specializes in fish. The sign is a clear rectangular prism that looks like an aquarium. The sign has a length of 9 feet, a width of 4 feet, and a height of 6 feet. The sign will be filled with blue foam to look like water.



A. What is the volume of the sign?

Here are some strategies you can use.
- Draw a diagram and count the unit cubes.
- Use a formula for volume.

Think
$V = \ell \times w \times h$
$V = B \times h$

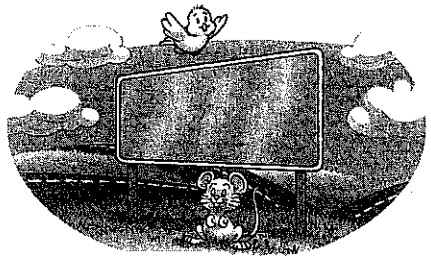
A box store orders a sign that will look like three stacked boxes.
The bottom box will measure 8 feet long, 6 feet wide, and 4 feet tall.
The middle box will measure 5 feet long, 4 feet wide, and 3 feet tall.
The top box will measure 3 feet long, 2 feet wide, and 2 feet tall.

B. What is the total volume of the sign?

Performance Task 3

The Mystery Sign

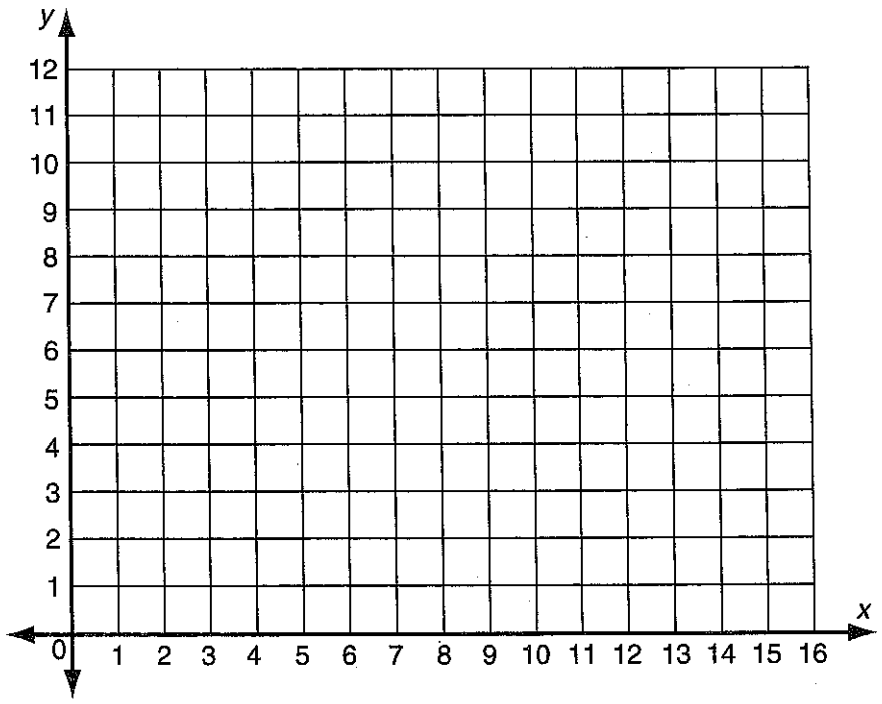
Name _____



5 Fred is painting a billboard in the city. But his directions are mysterious—he doesn't know what words he will paint! He is given seven sets of ordered pairs, one for each letter on the billboard. For each set, he must locate the points on the billboard. Then he must connect the points to form the letter.

A. Help Fred paint the billboard. The key is to connect the points of each letter in order. So, each time you locate a new point, connect it to the last point. What kind of company ordered the billboard?

Letter	Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8
1	(1, 7)	(1, 11)	(3, 11)	(3, 9)	(1, 9)	(3, 9)	(3, 7)	(1, 7)
2	(5, 11)	(5, 7)	(7, 7)	(7, 11)				
3	(9, 11)	(10, 9)	(11, 11)	(10, 9)	(10, 7)			
4	(1, 1)	(1, 5)	(3, 1)	(3, 5)				
5	(5, 5)	(5, 1)	(7, 1)	(7, 5)				
6	(9, 5)	(11, 5)	(10, 5)	(10, 1)				
7	(15, 5)	(13, 5)	(13, 3)	(15, 3)	(15, 1)	(13, 1)		



Performance Task 1

Yummy Strawberries at the Farmer's Market

1. Olga goes to the farmer's market to buy strawberries for a class party. There are 27 children in her class, but 9 of them do not like strawberries. Olga wants to buy 3 strawberries for each classmate who likes strawberries.

   a. Olga writes the expression $(3 \times 27) - 9$ to find the number of strawberries she should buy. What error did Olga make when she wrote the expression?

   b. Evaluate the expression that Olga wrote in item 1.a. above: $(3 \times 27) - 9$.

   c. Write a correct expression Olga can use to find the number of strawberries she should buy.

   d. Evaluate the expression you wrote in item 1.c. above. How many strawberries should Olga buy?

Copyright © by William H. Sadlier, Inc. All rights reserved.

Boxes of Granola Bars

2. Ms. Sandino, the owner of a health food super store, receives 14 boxes of granola bars. Each box contains 248 bars.

   a. Find the total number of granola bars Ms. Sandino receives.

   b. Ms. Sandino wants to put an equal number of granola bars on each of 8 display racks. Find the number of granola bars she should put on each display rack. Use your answer from item 2.a. above.

   c. Show how you can use the relationship between multiplication and division to check your answer to item 2.b. above.

Copyright © by William H. Sadlier, Inc. All rights reserved.

Performance Task 1

Bean Stew

3. Andrew purchases two kinds of beans to make stew. He buys $2\frac{1}{2}$ pounds of pinto beans and $1\frac{5}{8}$ pounds of kidney beans.

   a. Andrew estimates that he purchases about 3 pounds of beans altogether. Do you agree or disagree with his estimate? Explain.

   b. Find the exact weight of the beans Andrew purchases.

   c. Explain how knowing about equivalent fractions helped you find the exact weight of the beans in item 3.b. above.

   d. Andrew uses $\frac{3}{4}$ pound of the beans he buys to make a stew. How many pounds of beans does Andrew have left?

Advertising a Sale on Organic Avocados

4. Ms. Sandino makes a rectangular sign to advertise an unexpected bulk shipment of organic avocados. The sign is $\frac{3}{10}$ meter wide and $\frac{4}{5}$ meter long.

   a. What is the area of the sign?

   b. The store manager looks at the sign and says, "I think you should make a new sign. The area of the new sign should be $\frac{5}{4}$ the area of this sign." Does the store manager want the new sign to be larger or smaller than the sign Ms. Sandino made? Explain how you know.

   c. Find the area for the sign that the store manager would like to have.

   d. Find the length and width of a sign that would have an area $\frac{5}{4}$ the area of Ms. Sandino's sign.

Performance Task 1

The Deli Counter

5. Terrence works the late afternoon shift at the deli counter. He uses 3 pounds of turkey breast to make sandwiches. He puts $\frac{1}{4}$ pound of turkey breast in each sandwich.

   a. Draw a model that Terrence could use to find how many sandwiches he can make. Explain how your model shows the number of sandwiches Terrence can make.

   b. Write a division equation that your model in item 5.a. above shows.

   c. Use the relationship between multiplication and division to show that your division equation is correct.

   d. After Terrence finishes making the sandwiches, he begins to slice some cheddar cheese. He writes the expression $\frac{1}{2} \div 10$. Write and solve a story problem that matches Terrence's expression.

Performance Task 2

Modeling an Underground Parking Garage

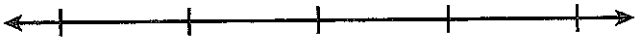
1. The students in Harold's art class are making drawings and models. Harold makes a model of an underground parking garage.

   a. Harold uses sandbags to make his model. The data set at the right shows the weights of the sandbags in pounds.

   Make a line plot of the data shown.

Sandbag Weights (in pounds)

2	$1\frac{3}{4}$	$1\frac{3}{4}$	1
$1\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{3}{4}$



   b. What is the total weight of the sandbags?

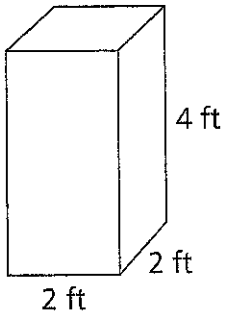
   c. Suppose the sandbags were re-filled so that each of the sandbags weighed the same. How many pounds would each bag weigh?

   d. Use your answer to item 1.c. above. How many ounces would each bag weigh?

Modeling an Apartment Building

2. Rebecca builds a model of an apartment building.

   a. Rebecca plans to use foot cubes to make the model. She begins by making the sketch below. Draw cubes in this sketch to help Rebecca find the total number of foot cubes she needs.



   b. How many foot cubes will Rebecca need?

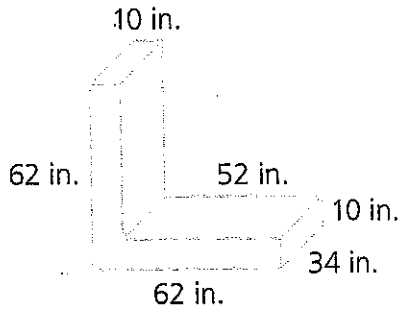
   c. Multiply to find the volume of Rebecca's apartment building model.

   d. Jarred also makes a model of an apartment building. His model is a cube with edge lengths of 1 yard. Whose model has the greater volume, Rebecca's or Jarred's? How much greater?

Performance Task 2

Modeling an Office Building

3. Jorge makes the model shown at the right of an office building.



a. Jorge says that he can use the formula $V = \ell \times w \times h$ to find the volume of his model. He says he will multiply $62 \times 34 \times 62$, because the length is 62 inches, the width is 34 inches, and the height is 62 inches. He says his answer will be in cubic inches. What error is Jorge making?

b. Draw a line segment on Jorge's model to show how you can break apart the model into two right rectangular prisms.

c. Explain how you can use the formula $V = \ell \times w \times h$ to find the volume of Jorge's model.

d. Find the volume of Jorge's model.

Modeling a Vacation Home

4. Hua makes a chart of clues for drawing her dream vacation home on a coordinate plane.

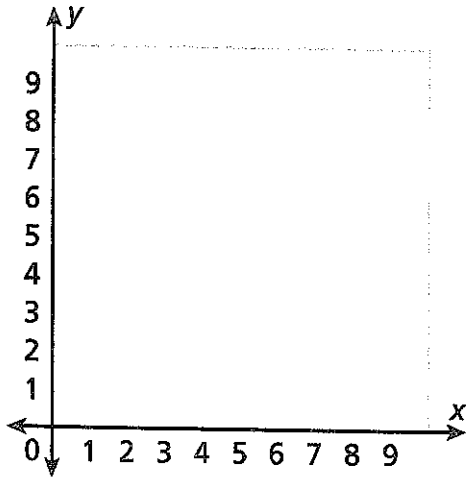
   a. Complete Hua's chart.

Point	Directions from the Origin	Ordered Pair
A	2 units to the right, 1 unit up	
B	2 units to the right, ____ units up	(2, 5)
C	____ units to the right, 5 units up	(4, 5)
D	____ units to the right, ____ units up	(4, 7)
E	5 units to the right, 8 units up	
F	____ units to the right, ____ units up	(7, 7)
G	7 units to the right, 1 unit up	

   b. What is the meaning of the origin on a coordinate plane?

   c. On the coordinate plane to the right, plot and label the points for the ordered pairs from the chart.

   d. Make the outline of Hua's dream vacation home. Use the coordinate plane at the right. Draw line segments to connect the points in order. Then connect the last point to the first point.



Copyright © by William H. Sadlier, Inc. All rights reserved.

Performance Task 2

Triangular Doors

5. Ilya is designing doors for her model of an amusement park's fun house. She wants each door to have the shape of an isosceles triangle.

   a. Describe the attributes of an isosceles triangle.

   b. Ilya wants one door to have the shape of an acute triangle. Draw an example of an acute triangle that is also an isosceles triangle. Explain how your triangle is both acute and isosceles.

   c. Ilya wants another door to have the shape of a right triangle. Draw an example of a right triangle that is also an isosceles triangle. Explain how your triangle is both a right triangle and an isosceles triangle.

   d. Ilya wants the third door of her model to have the shape of an obtuse triangle. Draw an example of an obtuse triangle that is also an isosceles triangle. Explain how your triangle is both an obtuse triangle and an isosceles triangle.