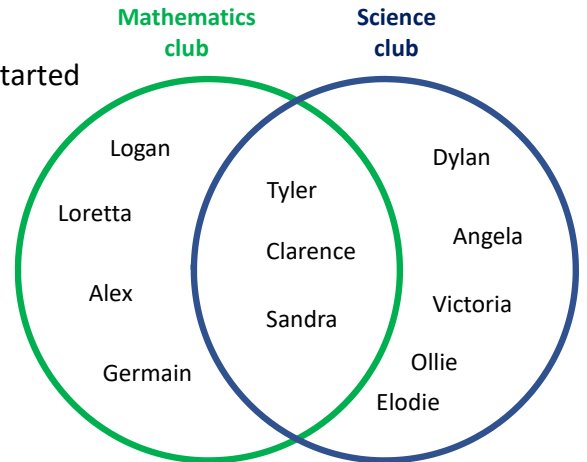# 4th Grade, Week I

(Parents: Reading the problems to your child is ALWAYS okay. So is helping!)

★★★★ **I.1.** The students in Mr Renick's 4th grade class started a mathematics club and a science club. They drew a Venn diagram to show which students were in each club. Use the Venn diagram below to answer questions about the clubs.

Mathematics club **Science club**

Logan
Loretta
Alex
Germain

Tyler
Clarence
Sandra

Dylan
Angela
Victoria
Ollie
Elodie

- How many students are in the Mathematics club? _____
- How many students are in the science club? _____
- How many students are in both clubs?

  _____

- If one-half of Mr. Renick's class is in either the math club or the science club or both clubs, what is the total number of students in Mr. Renick's class? _____

★★☆☆ **I.2.** How many right angles are in this picture of intersecting square frames, including the background?

Answer: _____ right angles

★☆☆☆ **I.3.** If the 7th day of the month is on a Friday, on what day is the 24th day of the same month?

Answer: _____

Name (Class): _____

★★★★ **I.4.** Think about the following list of pairs. 3 is the first number of a pair, and 8 is the second.

3 → 8	
4 → 11	
5 → 14	
6 → 17	
…	
10 → 29	
…	
…	
…	

a) If 50 is the first number, what is the second number? _____

b) If 200 is the first number, what is the second number? _____

c) If 89 is the second number, what is the first number? _____

d) If a number n is the first number, what is the second number? _____

★★☆☆ **I.5.** The sum of two whole numbers is 72. Their difference is 48. What are the two numbers?

Answer: _____ and _____

★☆☆☆ **I.6.** Henry was at the store and used his calculator to add up the price for 2 loaves of bread. He got the number shown in the display but didn't know exactly how much money that was. How much money would those two loaves cost? Circle the most likely answer below.

a. $738   b. 7.38¢

c. $738.00   d. $7.38

★★☆☆ **I.7.** In your class, 9 students received an "excellent" on a recent project. Your teacher would like to buy pencils for those 9 students. The school store sells them for 10 cents each, or 3 for 25 cents. What is the least amount of money your teacher will have to spend to buy one pencil for each of the 9 students?

Answer: _____ cents

Name (Class): _____

4th Grade, Week II

★★☆☆ **II.1.** Hair grows about ½ inch each month. After people shave their heads, how many years will it be until the hair is 1 foot in length?

Answer: _____ years

★★☆☆ **II.2.** Robert received a weekly allowance of $6 on Monday. He put 50% of his money in his empty piggy bank, but then took 50% of that money to buy some credits in his favorite video game. How much money was left in the piggy bank?

Answer: $ _____

★☆☆☆ **II.3.** A video game had a code built in. In order to play the game, Tamika had to find the missing number. Help her by filling the pattern below.

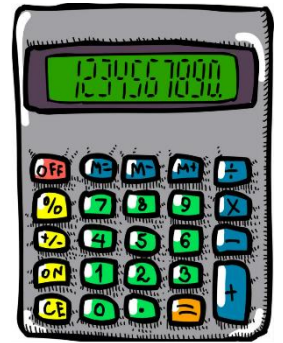113, _____, 95, 86, 77, _____, 59,   _____, 41, 32, 23, 14, 5.

★★★☆ **II.4.** Sabrina used a calculator and started adding the whole numbers in order:

$$1 + 2 + 3 + 4 + 5 + \dots$$

What is the last number she would add that would get the sum on her calculator over 1,000?

Answer: _____

★★☆☆ **II.5.** Alex, Elodie and Nathan went skiing in Vermont. They left at 1:45pm and the trip lasted 4 hours and 27 minutes with breaks. At what time did they arrive?

Answer: _____

Name (Class): _____

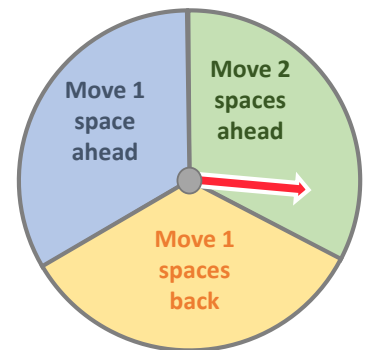★☆☆☆ **II.6.** Maria, Colleen, Patsy and Kenyada are 8, 9, 10, and 11 years old.

Maria is older than Patsy, and younger than Kenyada.
Colleen is younger than Marie and Older than Patsy.

What is each girl's age?

- Maria: _____ years old
- Patsy: _____ years old
- Colleen: _____ years old
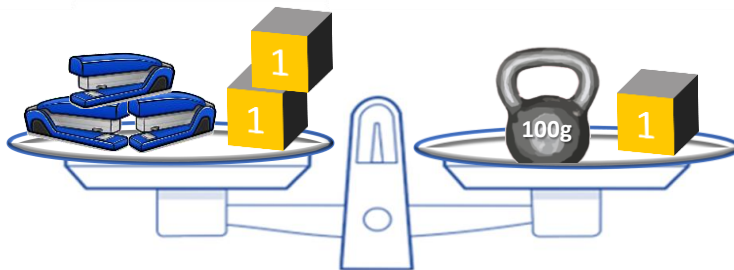- Kenyada: _____ years old

★★★★ **II.7.** On a game board, landing on blue means to move ahead 1 space, landing on green means to move ahead 2 spaces, and landing on orange means to move back 1 space. If you took 30 spins, about where would you expect to be on the game board, relative to where you started?

Move 1 space ahead
Move 2 spaces ahead
Move 1 spaces back

Answer: I would be about _____ spaces _____ (*ahead/behind*)

★★★☆ **II.8.** Margarit likes to balance things. She balanced 3 staplers and 2 one-gram blocks with a 100-gram weight and another one-gram block. She let *x* stand for the weight of one stapler, and she claimed that *x = 30 grams*. Was she correct? If not, how much did each stapler weight?

1 1 100g 1

Answer: _____

Name (Class): _____

4th Grade, Week III

★★☆☆ **III.1.** After filing in the multiplication table below, Parker noticed some number patterns. Fill in the squares with the numbers that have only *square numbers* in them.

x	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

★★★☆ **III.2.** Mr. Jackson is preparing bags of treats to give trick or treaters on Halloween. He has 48 pieces of candy and 60 pieces of gum. He uses all the candy and gum, and he puts the same ratio of candy to gum in each bag. What is the largest number of bags he could have made?

Answer: _____ bags

★☆☆☆ **III.3.** It is now 10:45. What time will it be in 2 hours and 15 minutes?

Answer: _____

Name (Class): _____

★★☆☆ **III.4.** Six cars are parked in front of a local car dealer lot. You are looking at the cars from the front.

- *The red car is parked in front of the green car.*
- *The black car is between the green car and the yellow car.*
- *The blue car is parked on the right side of the red car.*
- *The orange car is parked in front of the yellow car.*

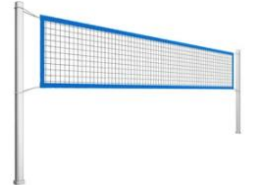Color the cars to show how they are parked (or write the name of the color on each car).

Front

★☆☆☆ **III.5.** Susan made $25 babysitting. She spent $21.15 on a birthday present, including tax. To the nearest dollar, how much does she have left?
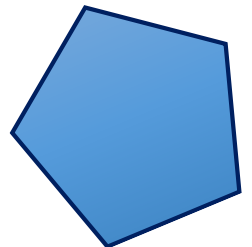
Answer: _____

★★★★ **III.6.** The Foster *Newcomb Classic* starts with 64 players. The players form pairs, and each pair plays a game. The winners of each pair then form new pairs and play again. Then those winners form pairs and play. This continues until here is one winner.

- How many games must the winner play? _____
- How many games are played to determine the winner? _____

★★★☆ **III.7.** Draw all the lines of symmetry for this polygon.

★★★☆ **III.8.** A number has 4 digits.

- No digits in the number are repeated.
- The digit in the tens place is three times the digit in the thousands place.
- The number is odd.
- The sum of the digits in the number is 27.

What is the number? Answer: _____

Name (Class): _____

4th Grade, Week IV

★★☆☆ **IV.1.** A school bus makes 7 stops on its trip to school and 7 stops on the trip home.

    a. How many stops will the bus make in one full week of school? _____

    b. How many stops will the bus make in the 180-day school year? _____

★☆☆☆ **IV.2.** When Michelle woke up yesterday, the temperature was 72°F. By lunch time, the temperature had risen 15°F. By dinner time, it had fallen 22°F. What was the temperature at dinner time?

Answer: _____ °F

★★★☆ **IV.3.** Teresa has 4 flowerpots in 4 different designs. She likes to display her flowerpots in different positions on her windowsill. How many ways can she place her flowerpots?

Answer: _____ ways.

★★☆☆ **IV.4.** What is the mystery number x?

- x has 3 digits.
- The tens digit is half the hundreds digits.
- The number is odd.
- The sum of the digits is 9.

Answer: x = _____

Name (Class): _____

★☆☆☆ **IV.5.** If the 7th day of the month is a Tuesday, on what day is the 25th?
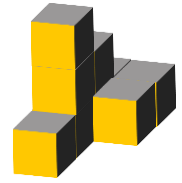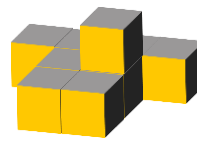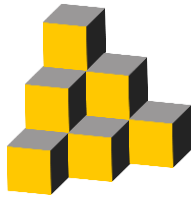
Answer: _____

★★★☆ **IV.6.** On average, your heart beats about 72 times per minute. At this rate, about how many times will it beat:

- In a 30-day month? _____
- In a year? _____
- In your lifetime, if you live to 72 years of age? _____

★★★☆ **IV.7.** The volume of a shape is the number of cubes it will take, all the same size, to make the figure. Each figure is made of stacks of cubes that are 1 centimeter on each side. Find the volume of the figures below.
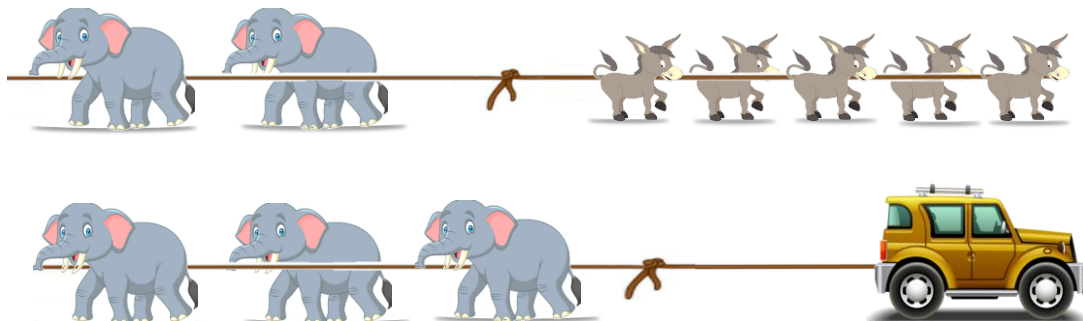
Answer:

a. _____ cm^3 b. _____ cm^3 c. _____ cm^3

★★★☆ **IV.8.** In a tug of war, 5 donkeys are exactly equal to 2 elephants. In another tug of war, 3 elephants are equal to 1 car. Which team should win if a car and 3 donkeys are matched against 4 elephants?

Answer: _____

Name (Class): _____

4th Grade, Week V

⭐⭐⭐⭐ **V.1.** A normal person blinks about 25 times per minute when awake.

    a. How old will you be on your next birthday?   Answer: (a) _____

    b. To the nearest million, how many times will you have blinked on your next birthday? Assume you sleep 8 hours a day.   Answer: (b) _____
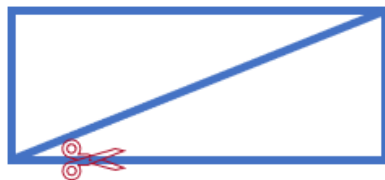
⭐⭐☆☆ **V.2.** Pablo has $3.15 in dimes and quarters. He has more quarters than dimes. How many quarters and dimes does he have?

              Answer: _____ quarters and _____ dimes.

⭐⭐⭐⭐ **V.3.** Use a centimeter ruler and a separate sheet of paper to draw an 8cm by 6cm rectangle. List its perimeter on the table below. Then cut out the rectangle and cut along its diagonal as shown in the picture below. Use your two pieces to create 4 new geometric shapes. After making each shape, determine its perimeter. Below, list the names of the shapes you made and their perimeters.

Shape	Perimeter
Rectangle	____

⭐☆☆☆ **V.4.** Fill in the missing digits:

```
    4 □ 6  8
        5 □  6
  +  □ 9  4 □
  _____
    1  1, 1  1  1
```

Name (Class): _____

★☆☆☆ **V.5.** *Century* is to *decade* what *dollar* is to: (a) penny (b) nickel (c) dime (d) quarter
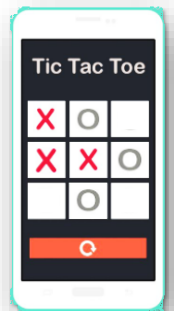
Answer: _____

★★☆☆ **V.6.** Roberto ate 3 pieces of pizza and then felt that he should pay ¼ of the cost because that's the fraction he ate. How many pieces was the pizza cut into?
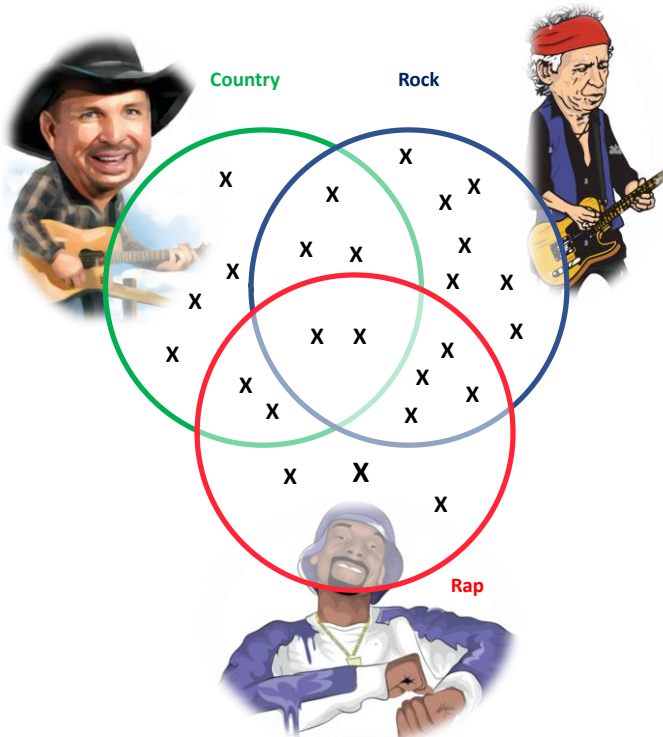
Answer: _____ pieces

★★★☆ **V.7.** Thomas is playing tic-tac-toe on his phone. It is the phone's turn to place an "X" on the board. If the phone makes its move at random in the open space, what is the chance it will win on this move?

Answer: _____

★★★★ **V.8.** Answer the questions below using the Venn Diagram showing Mr. Lewis' students musical preferences.

CLASS CENSUS:

How many students took the census?
_____

How many students prefer only rap?
_____

How many students prefer only rock and country? _____

How many students prefer rap or country but not rock? _____

Name (Class): _____

4th Grade, Week VI

★★☆☆ **VI.1.** Jean went on vacation with his parents in their family car. They left their home in Hingham on Monday at 7:15am and arrived in South Carolina on Tuesday at 11:45am. How long was their trip?

Answer: _____ hours and _____ minutes

★★★☆ **VI.2.** Mr. Brown wanted to put up a fence around his property. How many feet of fencing (including the gate) does he need? The lawn is outlined on the right, but the picture is not drawn to scale.
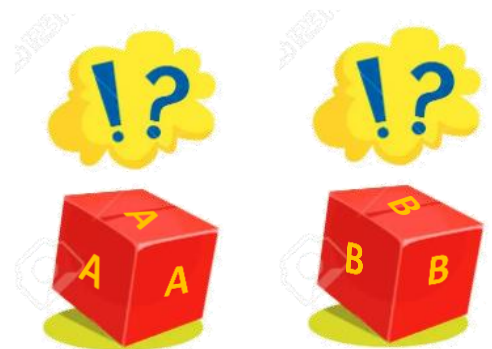
Answer: _____ feet

175 yards
185 yards
150 yards
200 yards
?
?

★★★☆ **VI.3.** Find the next number in the pattern below.

a. $32.10, $32.30, $32.50, $32.70, $32.90, $_____
b. 720, 360, 180, 90, _____
c. $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, _____

★★★★ **VI.4.** Box A has 3 red marbles and 2 yellow marbles. Box B has 2 red marbles and 1 yellow marble. If you had to pick a red marble to win a prize and you could not look in the box, which box would give you the best chance of winning the prize?
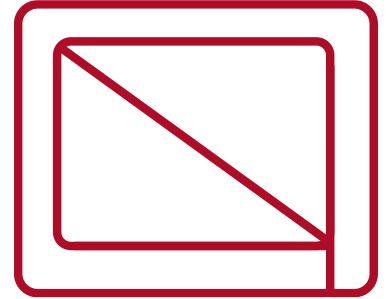
★★☆☆ **VI.5.** You can trace overt his figure with a pencil without retracing any path… if you start from the right place! Find the two places where you can do this, and draw circles around them.

★☆☆☆ **VI.6.** If 5 is added to a number *n* and the answer is multiplied by 2, the result will be 24. What is the number *n*?

Answer: *n* = _____

★★★☆ **VI.7.** Estimate the answers below. Circle the best choice.

a. $3\frac{10}{11} + 2\frac{1}{101}$ Choose: 4 or 5 or 6 or 7

b. $5\frac{2}{47} - 2\frac{1}{35}$ Choose: 2 or 3 or 4 or 5

c. $6\frac{17}{19} \times 7\frac{3}{290}$ Choose: 42 or 49 or 63 or 213

★★★☆ **VI.8.** You need 1/2 a cup of sugar to make a three-layer cake. How much sugar would you need for a one later cake?

Answer: _____

★☆☆☆ **VI.9.** What is the product of the ten one-digit numbers?

Answer: _____

Name (Class): _____

4th Grade, Week VII

★★★★ **VII.1.** One green, on red, and one blue marble are placed in a bag. The days of the week are written on seven pieces of paper and put in another bag. You can draw from either bag for a $1 million price. To win, you must either draw a weekend day (Saturday or Sunday) or a blue marble. Which bag gives you the best chance of winning, the marble bag or the day-of-the-week bag?

Answer: _____

★☆☆☆ **VII.2.** One disposable diaper will stay in a landfill, without decomposing, for 2,000 years. If you put 4 disposable diapers into a landfill tomorrow, how long will it be before they are all decomposed?

Answer: _____

★★★☆ **VII.3.** Mike has 20 feet of fencing to make a rectangular pen for his dog Lulu. What is the largest area that he can fence in?

Answer: _____ square feet

★★☆☆ **VII.4.** Herman's lunch came to $14.27, and he gave the clerk $15.02. Why did the clerk give two extra pennies?

Answer: _____
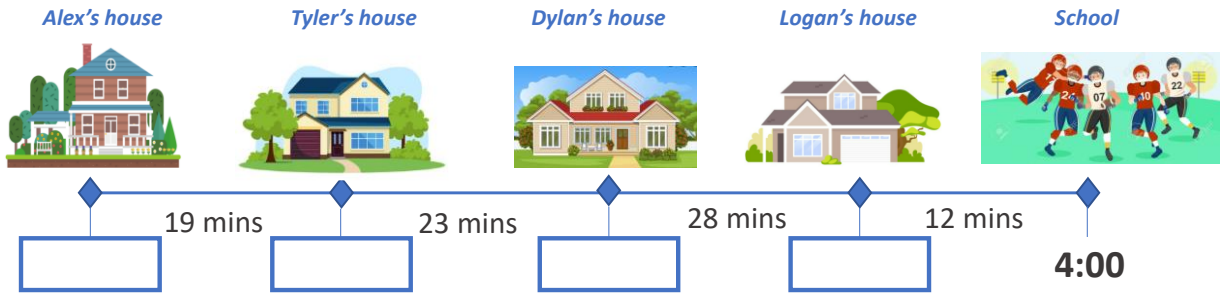
_____

Name (Class): _____

★★★☆ **VII.5.** Juan's age is 3 times Derrick's age, and Tyrone is twice as old as Derrick. The sum of their age is 30. How old is each boy?

Answer: Juan is _____; Derrick is _____; Tyrone is _____

★★☆☆ **VII.6.** Alex and three of his friends ride their bikes back to Foster for practice. Alex leaves his house and goes to each of his friend's house, and they travel on together. He has timed each part of the trip. Practice starts at 4:00 sharp. Write in each box below when they should leave each house.

Alex's house	Tyler's house	Dylan's house	Logan's house	School

19 mins   23 mins   28 mins   12 mins

4:00

★★☆☆ **VII.7.** This watch is unusual – it runs *counterclockwise*. What time will it be 4 hours and 45 minutes from the time shown?

For your answer, draw the hour and minute hands where they should be on this watch.

★★☆☆ **VII.8.** An adult has about 5 quarts of blood. When they donate a pint, what fraction of their blood do they give away?

Answer: _____

★★☆☆ **VII.9.** The human body is about 70% water, by weight.

How many pounds do you weight? _____ pounds

How many pounds of you is water? _____ pounds

Name (Class): _____

4th Grade, Week VIII

⭐⭐☆☆ **VIII.1.**   What number is as much greater than 36 as it is less than 94?

Answer: _____

⭐⭐⭐☆ **VIII.2.**   Find a pair of numbers for each sum and product. Write your answers in the blanks.

Number 1	Number 2	Sum	Product
5	, 3	8	15
,		10	24
,		12	20
,		14	48
,		16	63
,		18	45
,		31	30

⭐⭐⭐☆ **VIII.3.**   Ashley, Jonathan, Sarah, Carlos, and Tanya all made the finals of the National Math Olympics last year. Before the final round began, each one had to fist bump with all the others. How many fist bumps were there?

Answer: _____ fist bumps

⭐⭐☆☆ **VIII.4.**   Karen's first five grades were: 92, 88, 99, 97, and 89. If she has an average of 94, she'll get an A on her report card. Find Karen's average. Will she get an A or a B?

Answer: Karen will get a(n) _____

Name (Class): _____

★☆☆☆ **VIII.5.** Find the missing digits. Write the completed problem below to the right.

$$
\begin{array}{r}
5\ \boxed{}\ ,\ 6\quad 8\quad 2 \\
-\quad 4\quad 3\ ,\ 8\ \boxed{}\quad 6 \\
\hline
6\ ,\ 7\quad 8\quad 6
\end{array}
$$

Answer:

★☆☆☆ **VIII.6.** On the 4th of July, a typical temperature in Florida during the day would be:

a. 12°C   b. 120°F   c. 36°C

Answer: _____

★★☆☆ **VIII.7.** Rachel mailed out 12 party invitations and the stamps cost $0.32 each. She paid for her stamps with a five-dollar bill. How much change should she receive?

Answer: _____

★★★★ **VIII.8.** In these addends, each letter represents a single digit. Find the numbers. Write the completed problem below, on the right-hand side.

$$
\begin{array}{r}
C\quad E\quad N\quad T \\
C\quad E\quad N\quad T \\
+\quad S\quad C\quad E\quad N\quad T \\
\hline
3\quad 5\quad 1\quad 2\quad 8
\end{array}
$$

Answer:

★★☆☆ **VIII.9.** To change "dog years" to "people years", you multiply the dog's age by 7.

a. How old, in people years, is a 10-year-old dog?

_____

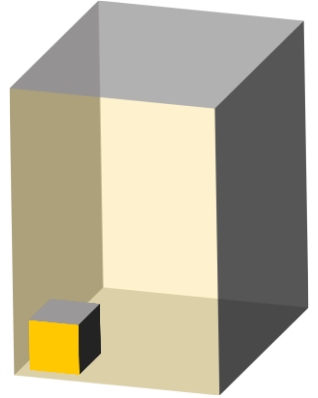b. How old are you? _____ How old, in dog years, is a dog that's your age? _____

Name (Class): _____

4th Grade, Week IX

★★☆☆ **IX.1.** The *volume* of a box is the number of cubes it would take to fill it up. If each cube in a centimeter on the edges, the volume would be given in *cubic centimeters*. What is the volume of the 4cm x 4cm x 6cm box on the right?
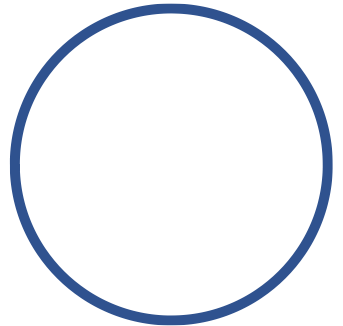
Answer: _____ cubic centimeters.

★★★★☆ **IX.2.** Elodie got her $10 weekly allowance on Monday. She spent 25% of it on Tuesday, 15% on Wednesday, and 10% more on Thursday. How much money does she have left to spend at the neighborhood's convenience store?

Answer: _____

★★☆☆ **IX.3.** Shade in ¾ of ½ of ½ of the circle. What fraction of the circle is shaded?

Answer: _____ is shaded

★★★★ **IX.4.** How many outfit combinations are possible with 1 pair of sneakers, 3 tee-shirts, and 2 pairs of jeans? Drawing a diagram might help to illustrate your strategy

Answer: _____ outfits are possible

Name (Class): _____

IX.5. Velma sold *x* amount of money from the village crop. Bob has three times as much as Velma, less $14.62. Write an expressing, using *x*, that tell how much Bob has.
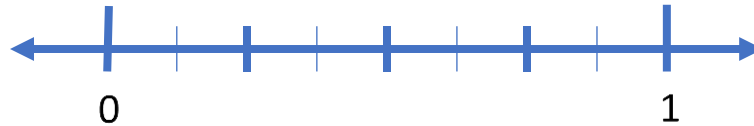
Answer: _____

IX.6. Mr. Harmen graded 56 papers Monday and 87 papers Wednesday. How many papers did Mr. Harmen grade in the two days?

Answer: _____ papers

IX.7. Place the letter X on the number line where 5/8 would be.

0   1

IX.8. Use logic and the clues given to find out who will be sitting which chair for the Halloween party. Fill each chair with the character's initial.

- *The Jack-o-lantern sits on the Ghost's immediate right.*
- *Sleeping Beauty sits across from the Prince.*
- *The Witch is to the right of Sleeping Beauty.*
- *The Prince sits between the Jack-o-lantern and the Fireman.*
- *The Ghost sists at the head of the table, with the bucket of candy.*
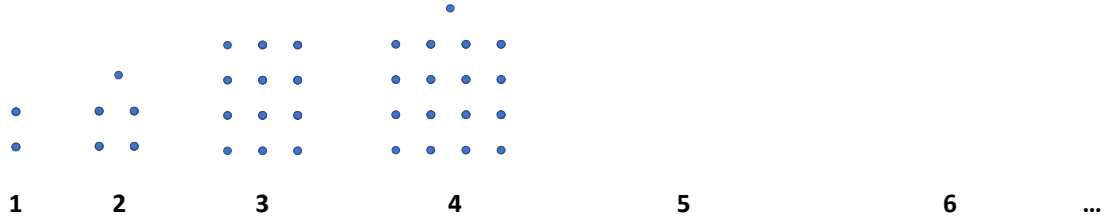- *The Clown sits to the left of the Robot.*

Name (Class): _____

4th Grade, Week X

★★☆☆ **X.1.** Draw the fifth and sixty figures to follow the pattern of the dots below.

1   2   3   4   5   6   …

★★★★☆ **X.2.** Answer these questions about the pattern in problem 1 above.

   a. How many dots would it take to make the 10th figure in the pattern? _____

   b. What is the number of the figure that is made with 401 dots? _____

   c. Let n stand for any figure number. Use n to tell how many dots there would be in the nth figure. _____
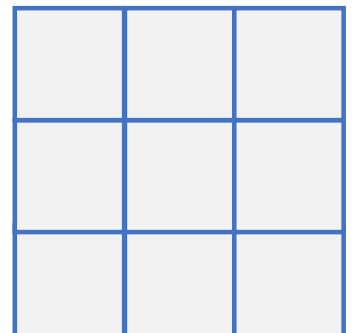
★★☆☆ **X.3.** Margo's dog had a litter of 7 pups, all alike except for coloring. The mother and one pup weigh 15 pounds. The mother and two pups weigh 16 pounds. How much did the litter of 7 pups weight by themselves?

Answer: _____ pounds.

★★★★★ **X.4.** In a magic square, the sums of the columns, rows, and diagonals are all the same. Using the digits 1 thru 9 only once, fill in the blanks to make this figure a magic square with a sum of 15.
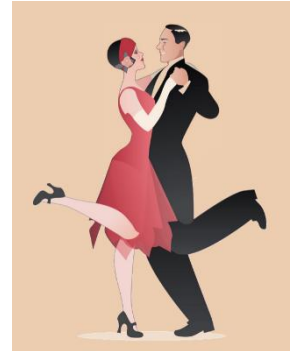
Name (Class): _____

★☆☆☆ **X.5.** Back in the old days, couples would enter marathon dance contests to win money. They would dance continuously, with only short breaks for food and drink. Some contests would go on for over a week. How many hours of dancing would there be in a 7-day week?

Answer: _____ hours.

★★★☆ **X.6.** Mr Lehman would like to offer you a job. He will hire you for ten days. He offers to pay you one of three ways:

   a. $1.00 the first day, $2 the second day, $3 the third day, and so on.
   b. 10¢ the first day, 20¢ the second day, 40¢ the third day, an each day twice the amount of the day before.
   c. $6 each day for all ten days.

Which way should you go for to have the most money? Answer: _____

★☆☆☆ **X.7.** How many gallon jugs would you need to hold 3 and ¾ gallons of lemonade?

Answer: _____

★★★★ **X.8.** Your Mom is a sport person, so when it's close to your bedtime, she has a contest with you to see if you get to stay up an extra half-hour to play. You get to draw a card from a well-shuffled deck. If you draw a face card, an ace, or any heart, she says she'll "have the heart" to let you stay up. If you draw any other card, you lose and go to bed. Who has the best chance of winning, you or your Mom?

Answer: _____