

SUNSHINE MATH - 5

Saturn, I

Name: _____

(This shows my own thinking.)

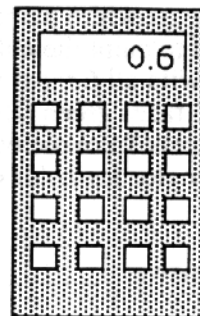
- ★★★★ 1. A worm is at the bottom of a 10 foot hill. He crawls up the hill $4\frac{1}{2}$ feet a day. At night when he rest he slides down $2\frac{1}{2}$ feet. How long does it take the worm to crawl up the hill? (Hint: Draw a picture.)



Answer: _____ days

- ★★★ 2. Jennifer was shopping, and using a calculator to find the price of a can of soda. She got the number shown on the display, but didn't know exactly how much money that was. How much money would the can of soda cost? Circle the best answer below.

- (a) \$6
- (b) \$.06
- (c) \$0.60
- (d) 60¢
- (e) 0.60¢
- (f) both (c) and (d) above



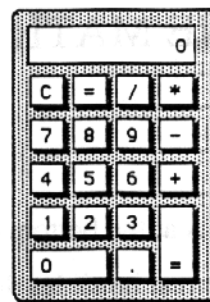
- ★ 3. If the 9th day of a month is on Tuesday, on what day is the 25th?

Answer: _____

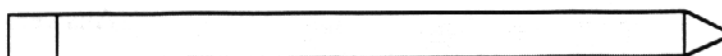
- ★★★ 4. Put one digit from {1, 0, 3, 7} in each box to get the correct long division problem.

$$\begin{array}{r} 4 \quad 3 \\ \square \overline{\square \square \square} \end{array}$$

- ★ 5. Use this calculator in geometry. Circle two sides you could use to draw a set of *parallel* lines.



- ★★ 6. Use a ruler and measure the pencil below to the nearest millimeter.



Answer: _____ mm

- ★★★★ 7. Mrs. Jones had some white paint and some green paint, and a bunch of wooden cubes. Her class decided to paint the cubes by making each face either solid white or green. Juan painted his cube with all 6 faces white--Julie painted her cube solid green. Hector painted 4 faces white and 2 faces green. How many cubes could be painted in the fashion, so that each cube is different from the others? Two cubes are alike if one can be turned so that it exactly matches, color for color on each side, the other cube.

Answer: _____ cubes can be painted so they are different

- ★ 8. Letia bought a milk shake at the ice cream shop, and gave the clerk a \$10 bill. She got \$9.61 in change. Is this reasonable? Why or why not?

Answer: _____

- ★★★ 9. The sum of my two digits is 13. I am not divisible by 2. List all possible numbers I could be.

Answer: _____

SUNSHINE MATH - 5
Saturn, II

Name: _____

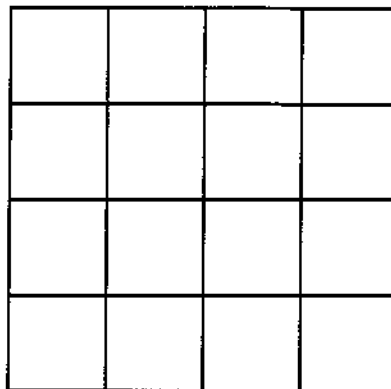
(This shows my own thinking.)

- ★★★ 1. Use each of these digits one time in the number sentence below: 2, 4, 6, and 8. Fill in the blanks to produce the answer "14." Remember that you compute inside parentheses first.

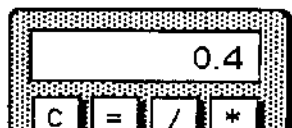
$$(___ \div ___) + (___ \times ___) = 14$$

- ★★ 2. How many squares can be found in the figure to the right?

Answer: _____ squares



- ★ 3. Tamisha did a problem two different ways on her calculator. She got two different answers. Which of the two answers below represents the largest number? Circle it.



- ★★ 4. The girl scouts were going on a field trip to the zoo. There are 25 people going. They rented vans and each van has only 7 seat belts. How many vans do they need?

Answer: _____ vans

- ★ 5. Write the standard numeral: $9000 + 700 + 8 + 0.6 =$ _____

★★★★ 6. What do you know about metrics? Circle the answers below that would make sense.

- | | | | |
|---|---------|---------|---------|
| a. The weight of a pineapple: | 1 kg | 1 g | 1 mg |
| b. The capacity of a can of soda: | 35 mL | 3.5 mL | 350 mL |
| c. The temperature on a summer day: | 30° C | 3° C | - 3° C |
| d. The distance from New York to Miami: | 2200 cm | 2200 km | 2200 mm |

★★★ 7. A class of 25 students has 10 boys. Three boys have braces and 4 girls have braces.

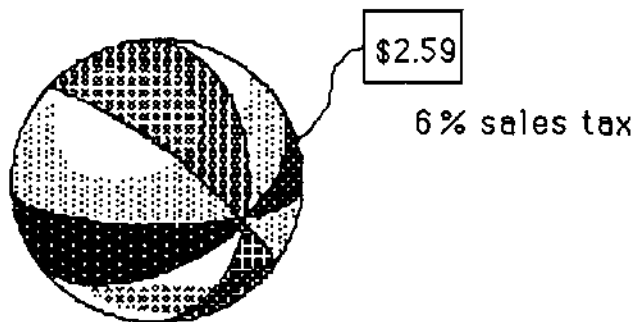
- a. What is the ratio of boys with braces to boys in class? _____
- b. What is the ratio of girls with braces to girls in class? _____
- c. Which of the two above ratios is larger? _____

★★★★ 8. The price and the sales tax are given. Compute the total cost. Tell how much change you would receive from \$5.00.

Answer: _____ Total Cost

Answer: _____ Change

Beach Ball



SUNSHINE MATH - 5

Saturn, III

Name: _____

(This shows my own thinking.)

- ★★ 1. Toni works in the school store. She sold 36 notebooks and 42 book covers. The notebooks cost \$2.38 each, and the book covers cost \$1.75 each. What is the total cost of Toni's sales?

Answer: _____

- ★ 2. A lot of students like to ride horses. Use the chart below to compare the primary grade riders (grades 1-3) with the intermediate grade riders. What is the difference in the number of riders between these two groups?

Horseback Riders

1st Grade	Ω Ω Ω Ω
2nd Grade	Ω Ω Ω Ω Ω
3rd Grade	Ω Ω
4th Grade	Ω
5th Grade	Ω Ω Ω Ω Ω Ω Ω Ω

Answer: _____

Key: Each Ω = 3 students

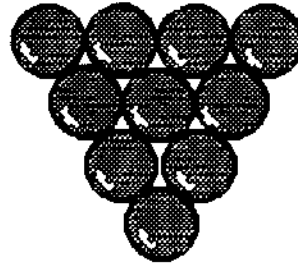
- ★★ 3. You have \$100. You spend $\frac{1}{4}$ of your money to buy a new pair of jeans. You want to save $\frac{1}{5}$ of what you have left. How much will you save?

Answer: _____

- ★★★ 4. Use these digits only once: 1, 2, 4, and 8. Write a number sentence and use any of the operations (+, -, x, ÷) as many times as you like. You must get 0 as an answer. Use parentheses if you like.

Answer: My number sentence is: _____

- ★★ 5. Draw all the *lines of symmetry* of the figures below.



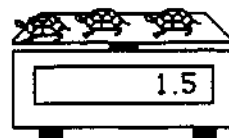
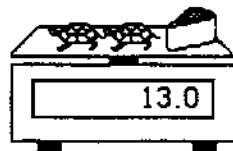
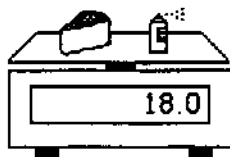
- ★ 6. Below is a *line of symmetry*. Draw a figure around it for which the line is a *line of symmetry*.



- ★★★ 7. Students arrived for school in groups. Bill was the first to arrive--consider him the "first group". Each group that arrived after Bill had two more people than the group that arrived before it. How many people were in school after 20 groups arrived?

Answer: _____

- ★ 8. How much does the can of paint weigh, by itself? Answer: ____



SUNSHINE MATH - 5

Saturn, IV

Name: _____

(This shows my own thinking.)

- ★★ 1. One, three, and six are triangular numbers. List all the other triangular numbers up to 36.

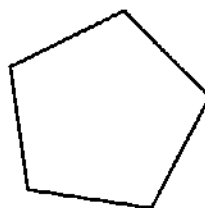


Answer: _____

- ★ 2. Jennifer earns \$5.25 an hour. Starting Monday she will get a raise to \$5.85 an hour. She works 40 hours each week. How much more will she make next week than she made last week?

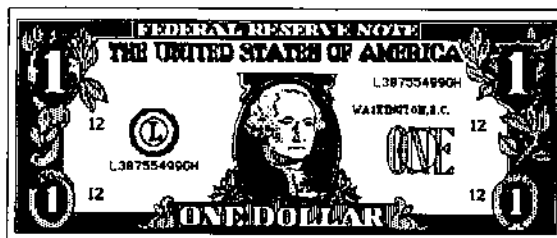
Answer: _____

- ★★ 3. A diagonal joins two vertices of a polygon. Draw all the diagonals in the polygon to the right.



- ★★ 4. Marti plans to save 25% of the money she makes over the summer washing cars.

- a. Shade in about 25% of the figure to the right to show how much she will save from every dollar she earns.



- b. How much will Marti save for each car she washes for \$5?

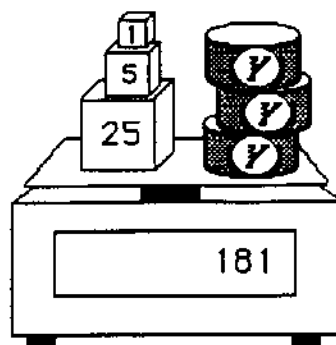
Answer: _____

- ★★ 5. The Phillips family wants to fence their backyard. They know the yard has a perimeter of 24 meters, and an area of 32 square meters. What is the yard's length and width?

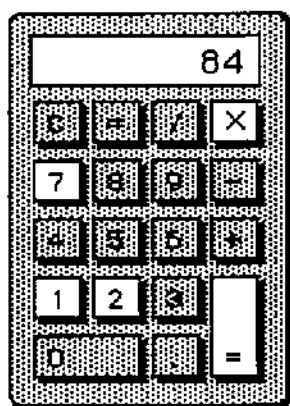
Answers: The length is _____ meters, and the width is _____ meters.

- ★★★ 6. Y stands for the weight of 1 can of tuna fish on the scale. Find Y .

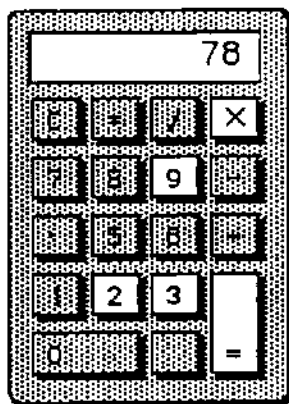
Answer: $Y = \underline{\hspace{2cm}}$



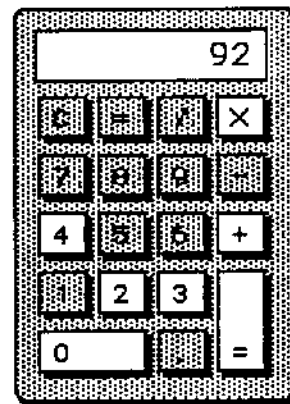
- ★★★ 7. Write the problems and answers below each calculator:



$\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

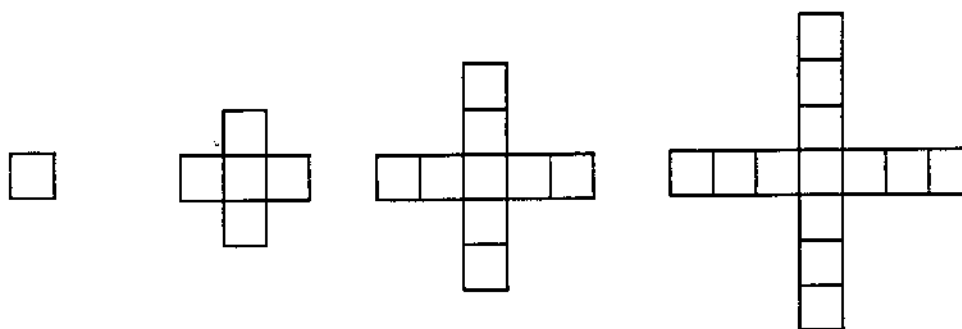


$\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$



$\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

- ★★ 8. Look at the pattern below. How many squares would be in the 10th shape in the pattern?



Answer: $\underline{\hspace{2cm}}$ squares

SUNSHINE MATH - 5

Saturn, V

Name: _____

(This shows my own thinking.)

- ★★ 1. Big Al has a set of non-metric wrenches that have these numbers on the end:

$$\frac{7}{16} \quad \frac{1}{4} \quad \frac{9}{16} \quad \frac{3}{8} \quad \frac{5}{16} \quad \frac{1}{2}$$



Which of his wrenches fits the largest nut? Which fits the smallest nut?

Answer:s _____ fits the largest _____ fits the smallest

- ★★★ 2. Jennifer bought a blender for her mother. The blender was on sale for $\frac{1}{3}$ off the marked price. The regular price of the blender was \$18.00. How much will she pay for the blender, including sales tax of 6%?



Answer: _____

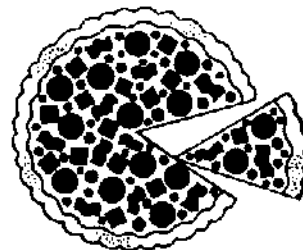
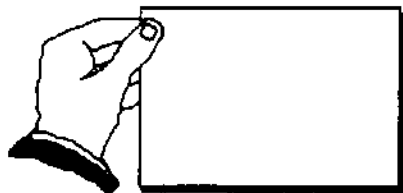
- ★ 3. Melissa and Sarah arranged the music hall for a concert. They made 42 rows with 35 chairs in each row, and 12 rows with 25 chairs per row. How many chairs did they use in all?

Answer: _____ chairs

- ★★ 4. The "square corners" on a sheet of writing paper are 90 degree angles. You can use these corners to estimate the measure of other angles.

About what is the angle of the piece of pizza being removed in the picture?

Answer: ____ degrees



- ★★ 5. In the month of April 9.45 inches of rain fell in Tallahassee. During the month of May 9.6 inches of rainfall fell. Which month had the most rainfall, and what was the total for the two months?

Answer: _____ had the most; the total was _____ inches

- ★ 6. Complete the addition. Convert your answer to smallest units. (i.e., change inches into feet and feet into yards, if possible)

$$\begin{array}{r} 2 \text{ yd. } 2 \text{ ft. } 3 \text{ in.} \\ + 1 \text{ yd. } 2 \text{ ft. } 11 \text{ in.} \\ \hline \end{array}$$

- ★★★ 7. Eli's Dad made him a birthday cake, but forgot to buy candles. He could only find a few. But Eli was smart in math, so his Dad said "The ratio of candles to years is 3 to 5." That gave him the right number.

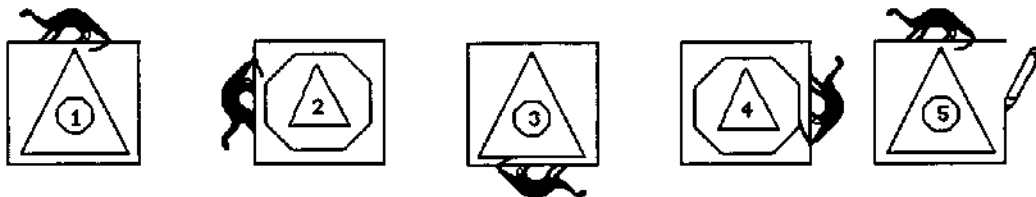


How old was Eli? _____

- ★★★ 8. Kenya, Matt, Tia, and Justin live on the same street. Their houses are gray, green, blue, and white, but not necessarily in that order. Justin lives next door to the grey house. Matt and Justin live across the street from the green house. Tia's house is blue. Circle the one who lives in the white house.

a. Kenya b. Matt c. Tia d. Justin

- ★★★ 9. Answer the questions after studying this pattern. Notice when the pattern starts repeating.



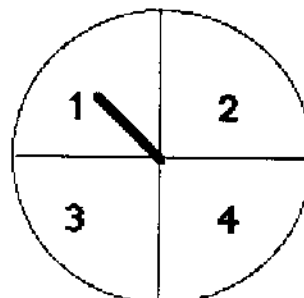
- a. Circle the figure above that would be the same as figure 15 in the pattern.
- b. List the numbers of 5 figures not shown that would be just like number 1: _____
- c. What is the number of the figure above that is just like the 100th figure in line? _____

SUNSHINE MATH - 5
Saturn, VI

Name: _____

(This shows my own thinking.)

- ★★ 1. The Adams family uses a spinner each night to see who does the dishes. Carla is assigned number 4.
- a. What is Carla's chance of having to do the dishes on any given night? _____
- b. What is Carla's chance that she won't have to do the dishes on any given night? _____



- ★★★★ 2. Bonita has 6 coins. All of them are pennies or dimes. What are the possible amounts of money she might have?

Answer: She might have _____¢, _____¢, _____¢, _____¢, _____¢, _____¢, or _____¢

- ★★ 3. Compute this answer. $8 \times (7.5 + 2\frac{1}{2})$

Answer: _____

- ★★ 4. Solve this problem if you have enough information. If there is not enough information tell what you need to know in the space below.

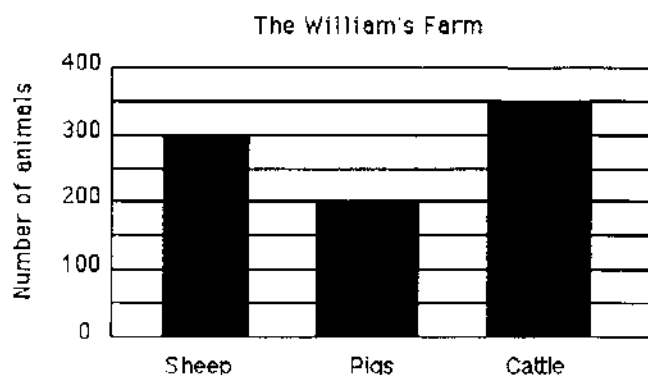
Kimberly orders a sweatshirt. The shirt costs \$25.99 plus the cost for mailing. Kimberly paid with a \$100 bill. How much change did she get back?

Answer: _____

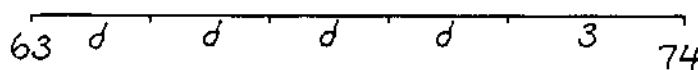
- ★ 5. Use a ruler to draw a segment 52mm long, in the space below.

★★★ 6. Use the following graph to answer these questions.

- What is the total number of animals on the Williams' farm? _____
- What is the difference in the number of cattle and the number of pigs? _____
- How many more pigs do they need to equal the total number of cattle and sheep? _____



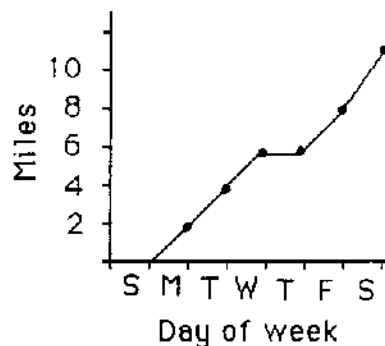
★★★ 7. Maria's bike odometer read 63 miles. She rode her bike to school and back 4 days last week. On Saturday she rode to the park and back, a total distance of 3 miles. At the end of those five trips, her odometer showed 74 miles. Find the distance d from her house to school and back. You can find d by using your number sense and the diagram below.



Answer: $d =$ _____ miles

★★ 8. Maria made a graph of the distance she travelled last week on her bike between school and home. Which day of the week did she not ride her bike to school?

Answer: _____



★★ 9. There are 34 classes in a school and each class could have between 23 and 30 children.

- What is the school's highest possible student population? _____
- What is the school's lowest possible student population? _____

SUNSHINE MATH - 5
Saturn, VII

Name: _____

(This shows my own thinking.)

- ★★ 1. What is the sum of these mixed numbers? $5\frac{2}{3}$, $3\frac{3}{4}$, $13\frac{1}{6}$, $8\frac{1}{2}$

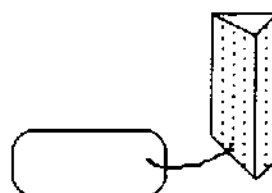
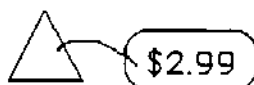
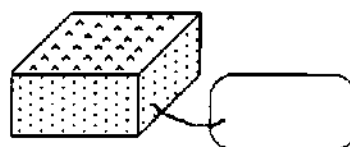
Answer: _____

- ★★★ 2. Artesia found a sale on skates. She got $\frac{1}{5}$ off the regular price of \$34.50. What was the sale price of her skates?

Sale on skates!

Answer: \$_____

- ★★★ 3. John needed two more shapes to complete his project. How much will each shape cost? Compute the cost of each shape using the key -- write the cost on each tag.



- ★★★★ 4. Put $>$, $<$, or $=$ between each pair of numbers.

a. 34.63 _____ $34\frac{1}{2}$

b. $3\frac{2}{5}$ _____ $1\frac{12}{5}$

c. 12.443 _____ 1.2443

d. 0.09 _____ 0.9

- ★★ 5. Mike and Sam are running a 26 mile marathon. They started out at 8:15 a.m.. They both crossed the finish line at 1:26 p.m.. How long did it take them to finish the race?

Answer: _____ hours and _____ minutes



- ★★★ 6. a. How many \$1 bills are in \$1,000,000? _____
 b. How many \$100 bills are in \$1,000,000? _____
 c. How many \$1,000 bills are in \$1,000,000? _____

- ★★★★ 7. Find the numbers that each letter stands for in the problem below.

$$\begin{array}{r} \text{EFGH} \\ \times \quad 4 \\ \hline \text{HGFE} \end{array}$$

E = _____

F = _____

G = _____

H = _____

- ★ 8. Jim was putting carpet in his son's tree house. He needed to find the area of the floor. But he was having trouble with the multiplication. The measurements were 4.2 meters by 6.3 meters. Do the multiplication to help him find the area.

Answer: _____meters²

- ★★ 9. Rewrite this riddle so it's easily understood.

The middle 3/5 of SHOWS.
 The first 1/3 of DOODLE.
 The first 3/5 of YOURS.
 The first 1/2 of KEEPSAKE.

The middle 1/5 of TRAPS.
 The first 6/6 of TURKEY.
 The middle 1/2 of PINS.
 The first 8/11 of SUSPENSEFUL.

Answer: The riddle is: _____

A good answer to the riddle might be: _____

SUNSHINE MATH - 5

Saturn, VIII

Name: _____

(This shows my own thinking.)

★★★ 1. Write true, sometimes, or false.

- a. Perpendicular lines intersect. _____
- b. Two sides of a triangle are parallel. _____
- c. Two lines that are parallel to the same line are parallel to each other. _____

★★ 2. Solve:

$$9 \div (1 + 2) + 9 \div 3 = ?$$

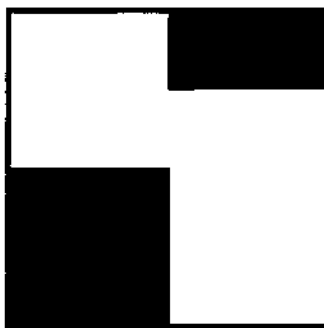
Answer: _____

- ★ 3. Lisa and Sandy were comparing sticks. Lisa's stick was $\frac{2}{3}$ of a yard long. Sandy's stick was $1\frac{10}{12}$ of a foot long. Who's stick was the longest, and by how much?

Answer: _____ was longer, by _____.

- ★★★★ 4. What fraction of the large square is shaded?

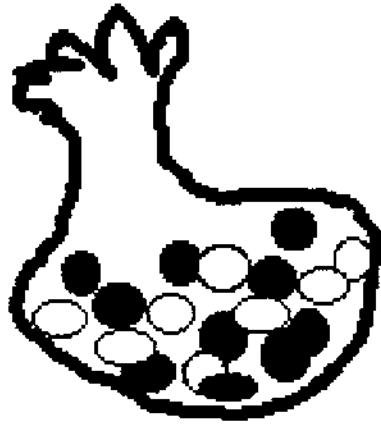
Answer: _____ is shaded



- ★★ 5. Adrienne left home at 8 a.m.. She arrived in Los Angeles at 1:28 p.m.. Her friend Erica left home at 10 a.m.. She arrived in Los Angeles at 2:45 p.m.. Assume they are in the same time zone the whole trip and both trips take place during the same day. Altogether, how many hours did Adrienne and Erica spend traveling?

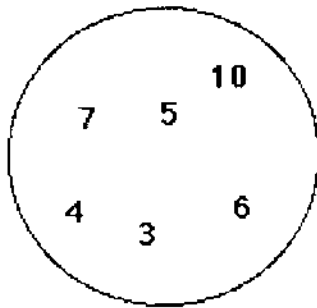
Answer: _____ hours, _____ minutes

- ★★ 6. Mike had eighteen jellybeans in a bag. 12 of them were green, 1 was blue, 1 was black, 1 was white, 1 was pink, and 2 were orange. If he stuck his hand into the bag without looking, what is the probability of his pulling out an orange jellybean? Write your answer as a fraction.



Answer: _____

- ★★★★ 7. Write a number sentence. Use every digit in the circle only once. Insert math symbols (+, -, x, ÷) and end with the number three. Use parentheses if necessary.



Answer: _____ = 3

- ★★ 8. Joe and Christine each bought a six pack of colas. Joe gave $\frac{2}{3}$ of his away to friends, and Christine gave away $\frac{1}{2}$ as many as Joe. How many more colas did Christine have, than Joe?

Answer: She had ____ more.

- ★ 9. Lo Ann's softball team had 16 players. One day it started raining at practice, and all but 5 players squeezed into the refreshment stand, out of the rain. How many were left to get wet?

Answer: ____ were left outside and got wet.

SUNSHINE MATH - 5

Saturn, IX

Name: _____
(This shows my own thinking.)

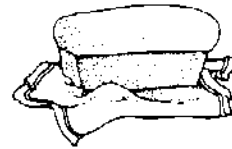
- ★★ 1. Sandra has eight coins which total \$0.87. What coins does she have? (Hint: make a chart or a list.)

Answer : _____

- ★★ 2. Practice doing some problems like this. You will be given one when you turn in your paper, and you can only write the answer down. You'll have to use mental math.

Answer later: _____

Lonny has \$15 to buy some groceries for his mom. Milk costs \$2.39, bread costs \$1.29, eggs cost \$0.79, and mayonnaise costs \$2.49. If he buys one of each item, can he expect to get \$10 in change? _____ (yes or no)



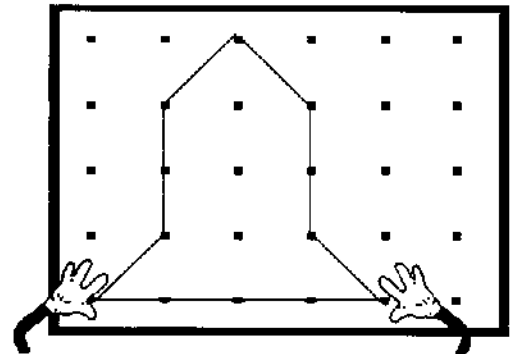
- ★★ 3. Jack wants to buy an equal number of green, blue and white ornaments for his holiday tree. Green ornaments come in packages of 3; blue ornaments come in packages of 6; the white ones come in packages of 4. What is the least number of packages of each color he must he buy?

Answers: _____ packages of green
_____ packages of blue
_____ packages of white

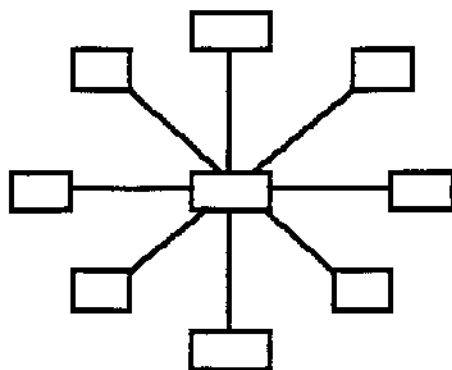
- ★★ 4. Mickey made a space ship on his geoboard.

- a. Draw any lines of symmetry on the space ship.
b. Find the area of the space ship by counting whole and partial square units.

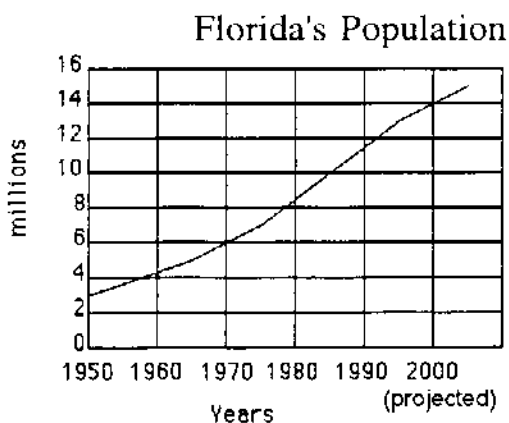
Answer: The area is _____ square units



- ★★★ 5. Use each digit from 1 to 9 to make each line sum to 15. Use each digit only once.



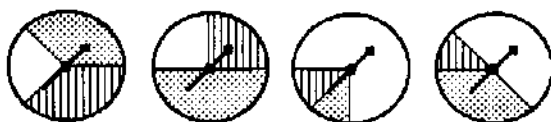
- ★★★ 6. Use the graph to answer the questions about Florida's growing population.



- What is the increase in population from 1950 to 2000? _____
- What was the approximate population in 1980? _____
- At the current rate of increase, what would the population be in 2010? _____

- ★★★ 7. Think about these spinners to answer the questions below.

- Put a 4 on the spinner that gives the white team the best chance to win.
- What is the white team's chance of winning on the spinner with 4? _____
- What is the chance the white team would not win, on the spinner with 4? _____



SUNSHINE MATH - 5
Saturn, X

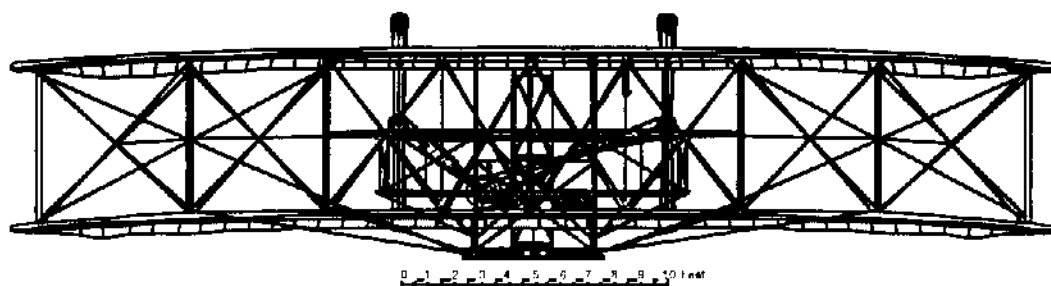
Name: _____

(This shows my own thinking.)

- ★★ 1. The Wright Brothers each had two flights on that famous day at Kitty Hawk. Orville flew 120 ft. and 585 ft. Wilbur flew 340 ft. and 852 ft. What was the average distance flown that day? At that rate, how many flights would it have taken them to fly a mile? (rounded to the nearest whole number)

Average distance: _____

Flights to travel a mile: _____



- ★ 2. Use the scale underneath the plane above to find its wingspan, tip to tip. Answer: ____ ft.
- ★★ 3. The regular season for professional baseball is 162 games. A player was at bat 3 times in each game, and he played in $\frac{2}{3}$ of the games.
- a. How many times was the player at bat during the season? Answer : _____
- b. The player hit 0.250, which means he got a hit 25% of the time, or once in every four at bats. How many hits did he get during the year?
- Answer: _____
- ★★ 4. John needs to build a fence around his yard, which is 96 ft. wide and 120 ft. deep.
- a. How much fence must he buy to enclose all four sides? Answer : _____
- b. If the fence costs \$12.87 for an 8 ft. length, how much will the entire fence cost before the tax is added?
- Answer: _____
- ★ 5. A bag has 6 marbles in it. Each marble is either red, blue, or green. What is the least number of marbles that you must pull out of the bag to be sure you have two marbles the same color?

Answer: _____

- ★ 6. You will be given a problem like the one below when you turn in your paper. To earn your star, you'll have to estimate the answer in your head. Make up and practice some problems like this one.

Answer later: _____

The store where Janice and Kanisha shop is having a sale on summer clothes. Each of the girls wants to buy 2 pairs of shorts and three tops. If shorts and tops are on sale for \$11.50 each, what is the best estimate of how much each girl will spend? Circle your answer.

- a. \$40 b. \$50 c. \$60 d. \$120

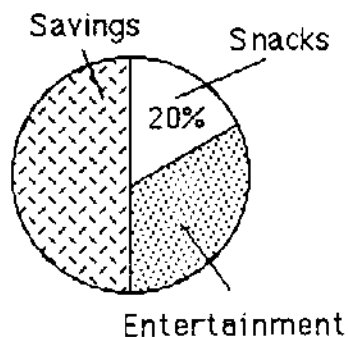
- ★★ 7. What whole number does N stand for if the number sentence below is true?

$$(N + 5) + (3 \times 2) = 18$$

Answer : _____

- ★★★ 8. Danny earns \$5 a week. Use the graph to answer the questions below.

- a. How much money does Danny spend on snacks? _____
- b. How much money does Danny save? _____
- c. How much money does Danny spend on entertainment? _____



- ★★★ 9. Franklin School has 3 boys for every 4 girls in the fifth grade. There are 140 students in the fifth grade.

- a. How many are boys? _____ b. How many are girls? _____

SUNSHINE MATH - 5

Saturn, XI

Name: _____

(This shows my own thinking.)

- ★★ 1. Jacqueline, Kanisha, Howard, and Billy have jobs in their group. The jobs are Recorder, Materials Manager, Time Keeper, and Reporter. Kanisha sits across from the Recorder and next to the Materials Manager. Billy hurt his hand and cannot record the work done. Jacqueline is best friends with the Reporter, and lives down the street from the Recorder. Billy rides the bus with both the Materials Manager and the Reporter. What is the task of each student?

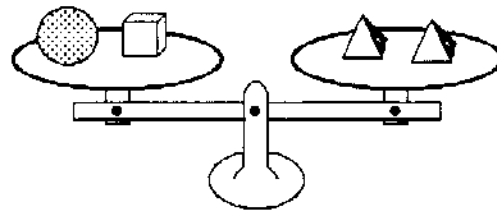
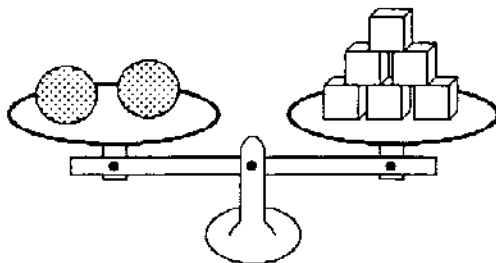
_____ Recorder _____ Materials Manager

_____ Time Keeper _____ Reporter

- ★★ 2. A sheet of plywood measures 4 feet by 8 feet. Armand wants to build a dog house using one whole sheet of plywood for the floor.
- a. Armand needs to put a "2 by 4" under the outer edge all the way around the floor, and another "2 by 4" that runs down the middle lengthwise, to give support to the plywood. If "2 by 4's" are sold in 8-foot lengths, how many should he buy? _____
- b. If he carpets the floor also, how many square feet of carpet should he buy? _____
- ★★★ 3. Pine Elementary School Chorus needs tapes to record their musical for the members. Tapes cost \$7.95 for a package of 2 tapes and \$11.75 for a package of 3 tapes. If 23 members want copies of the tape, what is the least amount they will have to spend?

Answer: _____

- ★★★★ 4. If each sphere has a mass of 120 gms, what is the mass of a pyramid? _____ gms



- ★★ 5. Sunny Ridge Elementary School was collecting cans for a food drive. The first two days of the drive, they collected 103 cans. They collected 5 cans more on the first day than on the second day. How many cans did they collect each day?

Answer : _____ 1st day _____ 2nd day

- ★ 6. Josie found a pair of shoes she wanted priced at \$55, but she did not want to pay that much. A few weeks later, the same shoes were marked down 20%. Including the 6% sales tax, how much will she pay if she buys the shoes on sale?

Answer: _____



- ★★★★ 7. People who learn to multiply mentally usually do the opposite of what they do with paper-and-pencil. They start multiplying the "big numbers" first, and then add on the product of the smaller numbers. Watch James below:

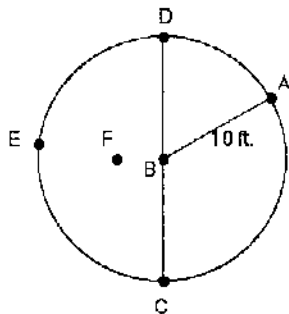


To multiply 63×45 , first multiply 60×40 to get 2400. Then add on 60×5 or 300, and you have 2700. Then add on 3×40 or 120, and you're up to 2820. Next add 3×5 or 15, and you have 2835. So 63×45 is 2835.

Practice multiplying this way with 2-digit by 2-digit multiplication problems that you make up. When you turn in your paper, you can earn 4 stars by doing a problem like this.

Answer later: _____

- ★★★ 8. Circle the best answer for the length of each line segment.



\overline{FE} 12 ft. 10 ft. 8 ft.

\overline{CD} 15 ft. 30 ft. 20 ft.

\overline{BF} 5 ft. 4 ft. 1 ft.

SUNSHINE MATH - 5
Saturn, XII

Name: _____

(This shows my own thinking.)

- ★★★ 1. Bob's garden is a 20 ft. x 10 ft. rectangle. Bob plants tomatoes in half of his garden; then radishes in $\frac{1}{4}$ of the remainder; then cucumbers in $\frac{1}{2}$ of what is left. The last area is planted in peppers. What part of the garden is planted in peppers?

(Hint: draw a picture)

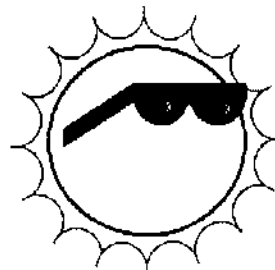
Answer : _____

- ★ 2. St. Augustine was founded in 1565 by Pedro Menendez de Aviles. The oldest house in that city still standing was built in 1703. How old is this house now?

Answer: _____

- ★★ 3. For your weekend at the beach, you have packed one pair each of red shorts, blue shorts, and tan shorts. You have also packed a white shirt, and a red shirt. How many outfits can you make with these clothes?

Answer: _____



- ★★★ 4. A number n is divided by 3 and the result is multiplied by 7. Then 6 is subtracted from the result to give 36. What is the original number n ?

$[(n \div 3) \times 7] - 6$ gives 36. What is n ?

Answer : $n =$ _____

- ★★ 5. Which fraction is closest in value to 1? Circle the correct answer.

a. $\frac{3}{5}$ b. $\frac{2}{3}$ c. $\frac{1}{2}$ d. $\frac{7}{10}$

- ★★ 6. There are 5,280 feet in a mile. If an airplane is flying at 35,000 feet above sea level, how high is it? Bubble in the correct choice.

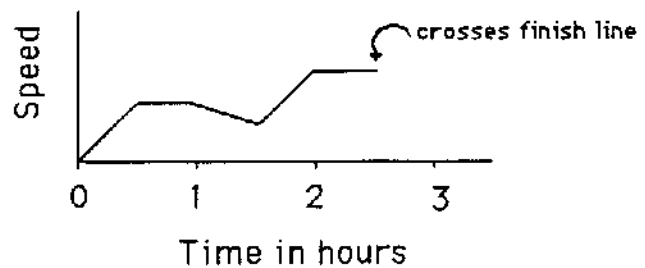
☐ 7 miles high
☐ a little less than 7 miles high
☐ a little more than 7 miles high

- ★★★ 7. Juan entered a bike race in which he was to ride 45 miles, stopping at certain intervals during the race to check in with the scorers. He checked in 9 times before he crossed the finish line. If the intervals were equally spaced throughout the race, how far apart were they?



Answer: The intervals were spaced every _____ miles.

- ★★★★ 8. The graph shows Juan's speed during the race, not counting when he stops at the checkpoints. Answer the questions below the graph.



- a. About how long did Juan take to finish the race? Answer: _____
- b. What can you say about Juan's speed during the first half hour of the race?
Answer: _____
- c. What can you say about Juan's speed during the second half hour of the race?
Answer: _____
- d. During what part of the race was Juan going the fastest?
Answer: _____

SUNSHINE MATH - 5

Saturn, XIII

Name: _____

(This shows my own thinking.)

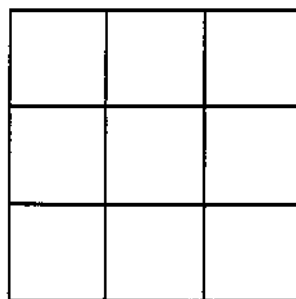
- ★ 1. Mr. McMathy needs 129 seats for his 5th grade program. If the seats are arranged in rows of 10 seats, how many rows will he need?

Answer: _____ rows

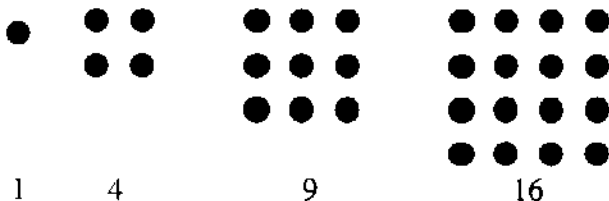
- ★★★ 2. In the United States, 154,000,000 tons of garbage are produced annually. On an average, about how many pounds is that each month for each person in the United States? The population of the United States is about 250 million.

Answer: _____ pounds

- ★★★★ 3. The horizontal, vertical, and diagonal columns of a magic square all add to the same sum. Use the digits 1 - 9 one time each to make a magic square.



- ★★★ 4. A *square number* is a number in which the dots can be arranged to form a square.



a. Find the next three square numbers. _____

b. Is 100 a *square number*? _____

c. Is 200 a *square number*? _____

- ★★ 5. How many different rectangles exist which have whole numbers as the length and width, and also have an area of 36 sq. cm?

Answer: _____ rectangles

- ★★★ 6. You offer to do the dishes for your family for the next month. You suggest that they can pay you in one of three ways:
- \$0.50 each day.
 - \$0.10 the first day, \$0.20, \$0.30 the 3rd day, and so on.
 - \$0.01 the first day, \$0.02 the second day, \$0.04 the third day, and so on, doubling every day.

If the month has 31 days, which rate of pay would be best for you? Circle your choice.

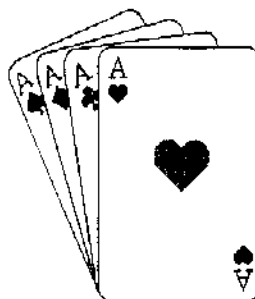
- ★★ 7. You place these cards in a bag, and choose one without looking.

- What is the chance you will pull out a red card?

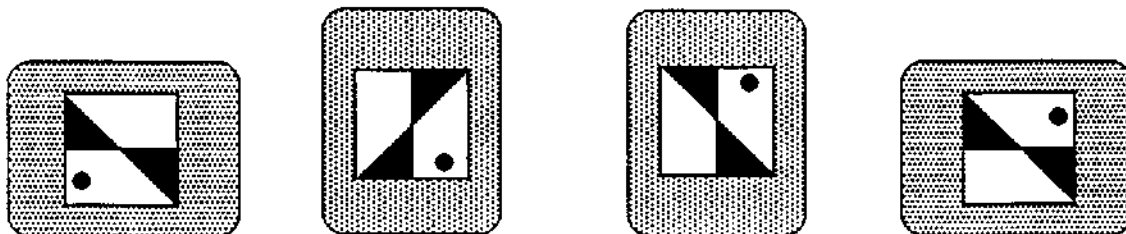
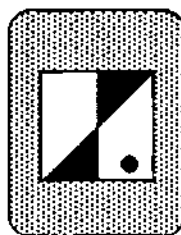
Answer: _____

- What is the chance you will pull out a ♣?

Answer: _____



- ★★ 8. Marcia drew the design to the right on a piece of clear plastic. She turned it 90° clockwise, then flipped it over horizontally and flipped it again vertically. Which is her card below? Circle it.



- ★ 9. Find the product: $5.7 \times 17.3 \times 651 \times 387 \times 0 \times 82.1 =$ _____

SUNSHINE MATH - 5

Saturn, XIV




Name: _____

(This shows my own thinking.)

- ★★★ 1. Complete each sentence by drawing a picture in the space beside it.

a.  is to  as  is to _____

b.  is to  as  is to _____

c.  is to  as  is to _____

- ★ 2. Fill in the missing fractions. The same fraction is used in both spaces.

$$\left(\frac{4}{8} - \quad \right) + \left(\frac{5}{8} - \quad \right) = \frac{7}{8}$$

- ★ 3. Solve if there is enough information. If not, tell what is missing. Becky bought a pack of paper that cost \$5.95. Tony bought a pack that cost \$6.49. Who bought the most paper?

Answer: _____

- ★★★★ 4. Maria works at the community relief center every summer. She is a really good worker. She earns \$8.00 per hour for her regular 40-hours a week. Last week she worked 47 hours. How much did Maria earn if she gets "time and a half" for overtime?

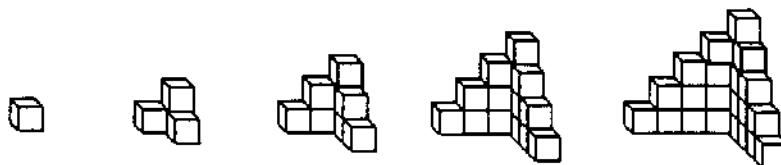
Answer: _____



- ★★★ 5. Complete the chart below. Each of the three students earns \$5.75 per hour.

Employee work schedule and amount earned				
Employee	In	Out	Hours	Amt. Earned
Bachie	8:00 A.M.	6:00 P.M.		
Dustin	12:30 P.M.	5:00 P.M.		
Monica	9:00 A.M.	5:30 P.M.		

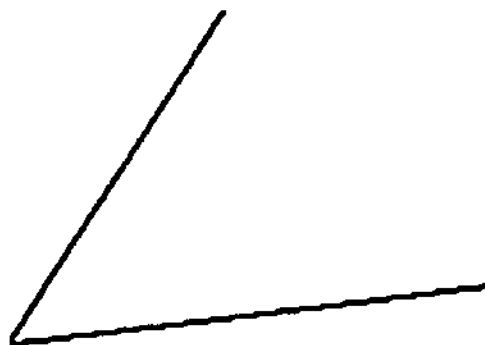
- ★★★★ 6. This pattern of buildings is made with blocks. Building 1 is made from 1 block, Building 2 from 4 blocks, and so on.



Bldg. 1 Bldg. 2 Bldg. 3 Bldg. 4 Bldg. 5 Bldg. 6 ...

- How many blocks are needed for Building 3? _____
- How many blocks are needed for Building 4? _____
- How many blocks are needed for Building 10? _____
- How many blocks for Building n , where n could stand for any number? _____

- ★ 7. Fold this sheet of paper so that you *bisect* the angle. *Bisect* means that you exactly cut it in half. With your pencil, darken-in the crease in the paper. The line you draw is the *bisector* of the angle.



- ★★★ 8. Open a book and look at the two page numbers.
- Is their sum an *even* number, or an *odd* number? _____
 - Is their product an *even* number, or an *odd* number? _____
 - If you opened the book to two different pages, would your answers to (a) and (b) be the same? _____

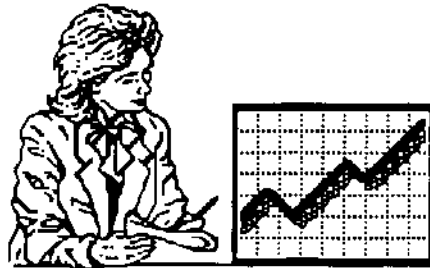
SUNSHINE MATH - 5

Saturn, XV

Name: _____

(This shows my own thinking.)

- ★★ 1. Ms. Hill and Mr. Booth both had \$500 to invest in the stock market. Ms. Hill bought shares of Sugarloaf at \$10 per share while Mr. Booth bought shares of Dandy's Butter at \$20 per share. Ms. Hill's shares went up in value \$0.20 per share. Mr. Booth's shares went up \$0.50 per share. How much did each earn on their shares?



Answers: Ms. Hill \$ _____

Mr. Booth \$ _____

- ★★★ 2. Tiffany has \$20 more than Ivan. Travis has \$20. All three together have \$41.

How much money does Tiffany have? _____ How much does Ivan have? _____

- ★ 3. What number do you need to add to these numbers to get 1000? Try solving these in your head. Then practice some more like these that you make up. Use your BRAIN POWER. When you turn in your paper you will be asked to solve a problem like these in your head.

a. $300 + \underline{\hspace{2cm}} = 1000$

b. $210 + \underline{\hspace{2cm}} = 1000$

c. $450 + \underline{\hspace{2cm}} = 1000$

d. $636 + \underline{\hspace{2cm}} = 1000$

Answer for the problem given when you turn in your paper: _____

- ★★★★ 4. You are having a pool party and invite 2 of your best friends. These two friends each invite 2 other people. These 2 people each invite 2 people that have not been invited. How many people will be invited if this process continues for 4 rounds? (Hint: Draw a diagram.)



Answer: _____ people

- ★ 5. Which equation has the same solution as the first equation? Circle it.

$$n + 13 = 21$$

a. $t - 13 = 21$ b. $17 = 25 - p$ c. $9 + d = 16$

- ★★ 6. A box will hold 23 puzzles. How many boxes are needed to hold 238 puzzles?

Answer: _____ boxes

- ★ 7. A jacket Jason wants is priced at \$18.99. The sales tax is 8%. What is the total cost of the jacket, including tax?

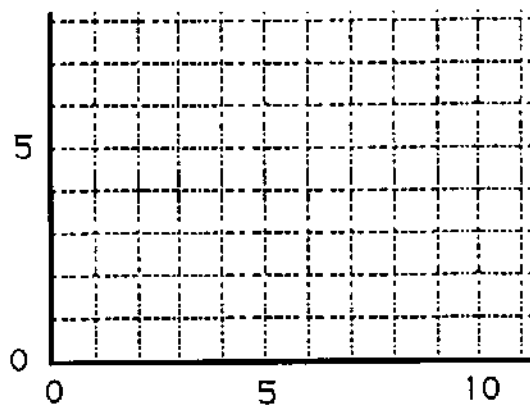
Answer: \$_____

- ★ 8. Write the correct numbers in the boxes:

$$\begin{array}{r} 4 \square \\ \times 35 \\ \hline 2\square 5 \\ 1410 \\ \hline 1\square 4\square \end{array}$$

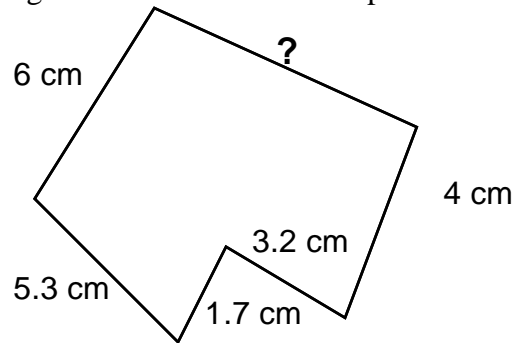
- ★★★ 9. Connect the points with a heavy line as described below.

- Connect (10, 1) to (10, 7)
- Connect (2, 1) to (5, 1)
- Connect (7, 4) to (10, 4)
- Connect (7, 7) to (7, 1)
- Connect (2, 7) to (5, 7)
- Connect (3.5, 1) to (3.5, 7)



★★★

1. Find the missing measurement. The total perimeter of the polygon is 27 cm.



Answer: _____ cm

★★

2. Fill the missing numbers in the division problem.

$$\begin{array}{r}
 \square \square \\
 \square 3 \overline{) 351} \\
 \square \square \\
 \hline
 \square 1 \\
 \underline{91} \\
 0
 \end{array}$$

★★★

3. When you divide, you sometimes get a larger number than you started with. Show you understand this by placing the decimal points in the answers below. The answers have the correct numerals, but placement of the decimal point will determine the answer.

a. $1.25 \div 0.5 = 250$

b. $0.84 \div 0.7 = 120$

c. $13 \div 0.1 = 1300$

★★

4. Report cards are coming out in three days. Your homework grades are 100, 90, 85, 78, 0, 80, and 92. The 0 occurred when you forgot to do your homework one night. What is the average of your homework grades?

Answer: _____

★★

5. Using the grades from problem 4, what would your average be if you had done your homework that night, and made a 77 instead of a 0?

Answer: _____

★★★★ 6. Write an algebraic expression for each phrase below. Use the variable suggested.

a. twice as old as Max's age a , less three years _____

b. 10 times higher than the chair's height h , plus 3 inches _____

c. \$3 more than half of what Jason makes d _____

d. five trips of x miles each, plus another 5.8 miles _____

★★ 7. Kalia skateboards 5 blocks west and 8 blocks north to get to her friend's house. Each block is $\frac{1}{8}$ mile in length.



a. How far does she travel in a round trip? _____ miles

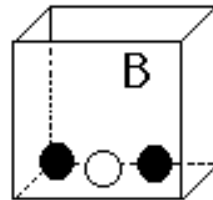
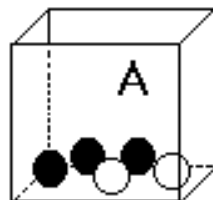
b. Rounded to the nearest whole mile, how far is a round trip? _____ miles

★ 8. Bailey has physical education class $1\frac{1}{4}$ hours on Monday, Wednesday, and Friday. How many minutes does he get physically educated each week?

Answer: _____ minutes

★★★ 9. Box A has 3 black marbles and 2 white marbles.
Box B has 2 black marbles and 1 white marble.

If you have to close your eyes and pick a *black* marble to win a prize, which box gives you the best chance of winning? Bubble-in your answer.



☐ Box A gives the best chance.

☐ Box B gives the best chance.

☐ The boxes give the same chance of winning.

SUNSHINE MATH-5

Saturn, XVII

Name: _____

(This shows my own thinking.)

★★

1. Learn to use mental math to do these problems with a 1-digit divisor. When you turn in your paper, you will have a chance to do one like these and write your answer below.

$$2 \overline{)10678}$$

$$3 \overline{)2145}$$

$$5 \overline{)2540}$$

$$6 \overline{)12018}$$

$$4 \overline{)2128}$$

$$7 \overline{)4949}$$

Answer later: _____

★★

2. Marcus drives a delivery truck and spent \$89 on gas his first week. If he drives for 8 months using about this much gas each week, how much would he spend on gas? Use estimation to find the answer to the nearest \$1000.



Answer: _____

★

3. These numbers are examples of palindromic numbers.

232

11

505

325523

Find four other numbers that are palindromic.

Answer: _____, _____, _____, _____

★

4. What do the numbers above have in common with this sentence?

A man, a plan, a canal, Panama!

Answer: _____

★★

5. Someone your age has an average pulse rate of 70 beats per minute and is ten years old. This means that, for an average person your age, the heart has already beat about how many times? Round your answer to the nearest hundred million.

Answer: _____

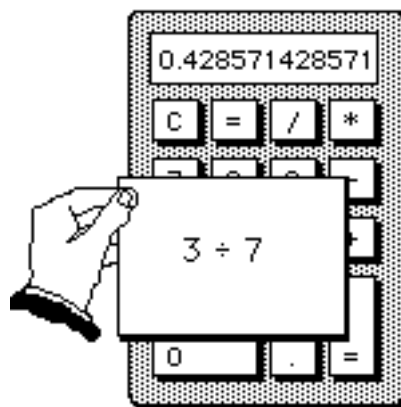
- ★★★ 6. Marcus noticed that at 3:00 o'clock, the hour and minute hands on his watch made a *right angle*. He was curious about the angles formed inside the right angle, when the second hand was pointing at the 2:00 o'clock marker. What two angles would this make inside the right angle?

Answer: _____ degrees and _____ degrees



- ★★★ 7. On a 12-digit calculator, $3 \div 7$ will give the answer shown. The calculator can't show the division process any farther. But the digits continue to repeat in this manner.

- What will the 13th digit be? _____
- What will the 14th digit be? _____
- What will the 100th digit be? _____



- ★★ 7. When Bonita makes a fruit salad, she always uses oranges and watermelons. This time she has 11 pieces of fruit. If she uses at least one of each and more oranges than watermelons, show all possible combinations by filling in the chart below.



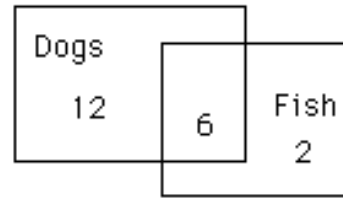
Oranges					
Watermelons					

- ★★★ 8. A bracelet cost \$33.50. The earrings cost \$12.65. How much does it cost to purchase the set if you get 10% off for buying both, and the sales tax is 6%?

Answer: \$_____

★★

1. In the third grade, some students have pets that are dogs, some have fish, and some have both. Use the Venn diagram to answer the questions.



a. How many students have fish? _____

b. How many students have fish and a dog? _____

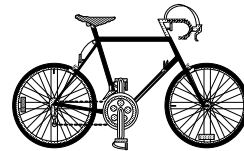
★★

2. You ran 1.5 miles before you decided you were running in the wrong direction. You turned around and ran back to where you started. Then you ran 2.75 miles in the other direction. How many miles did you run in all?

Answer: _____ miles

★★

3. It takes about 735 turns of an average 5th grader's bicycle tire to go 1 mile. To the nearest thousand, how many times would your tire turn around if you biked beside the runners in a 26-mile marathon?



Answer: _____ turns

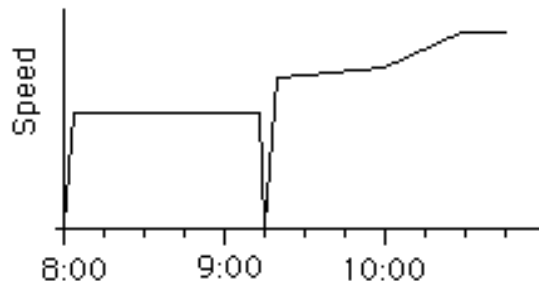
★★★

4. The graph below shows what a bicycle's speed might look like for a 26-mile marathon. The race started at 8:00 AM. Answer these questions about the graph.

a. How long did the race last? _____ hours and _____ minutes

b. At what time did the rider stop to get water? _____ A.M.

c. What is happening to the rider's speed between 10:00 and 10:30? _____



- ★★★ 5. Mrs. Jones' science class had to record the total amount of rain that fell the last week of school. It rained 1.66 inches on Monday, 0.23 inches on Tuesday, 0.76 inches on Wednesday, 1.2 inches on Thursday, and the skies were clear on Friday. What was the average amount of rain that fell from Monday to Friday? Round your answer to the nearest hundredth.

Answer: _____ inches

- ★ 6. Take a sheet of paper and fold it in half, fold it again, fold it again, fold it again, and then fold it again in half. If you opened the paper, how many sections would have?

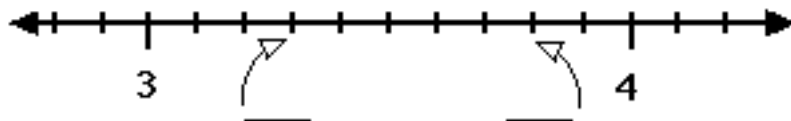
Answer: _____ sections

- ★★ 7. During the summer, Julio promised his Dad he would read 3 novels every 2 weeks. How many novels would that be during the 3-months of summer?



Answer: _____

- ★★ 8. Write two numbers in the spaces below to show what the two "tick marks" stand for on the number line, between 3 and 4.

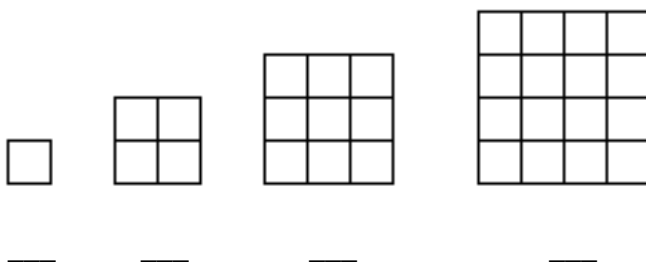


- ★★ 9. Mary had 10 yards 2 feet of ribbon. She needed to cut pieces for her 3 friends. If each friend got the same amount of ribbon, how much did each get? In your answer, there cannot be more than 12 inches

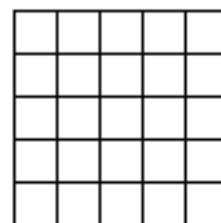
Answer: ____ yards, ____ foot, ____ inches

(Note: in your answer, inches must be converted to feet, if possible, and feet to yards.)

- ★★★★ 1. How many different squares are in each figure? Count the smallest squares first, then move up to the next size, and so on. Record the total number of squares below each figure and look for a pattern.



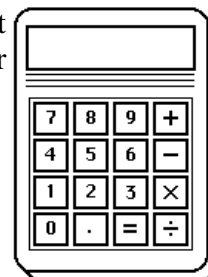
- ★★ 2. Herman thought he noticed a pattern to the problem above. The total number of squares is always the sum of the square numbers up to the figure number. For the 3rd figure, for example, the total number of squares is 14, which is also $1^2 + 2^2 + 3^2$.



- a. Does this pattern work for the next figure, the 5th? _____
- b. What is the total number of squares in the 10th figure? _____

- ★ 3. Aki bought a new calculator for school. What is the cost of the calculator including sales tax of 6%? Round your answer up to the next cent, as a store would.

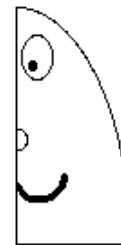
Answer: _____



- ★★★★ 4. Complete the chart below by putting a check in each column by which the number is divisible. You may have more than one number checked in each row or column. The first one is started for you.

	2	3	4	5
a. 6,945		<input checked="" type="checkbox"/>		
b. 1,236,240				
c. 54,208				

- ★ 5. Draw the other half of the shape to make it symmetrical. If it helps you, fold the page along the vertical *line of symmetry*, hold it up to the light, and trace.



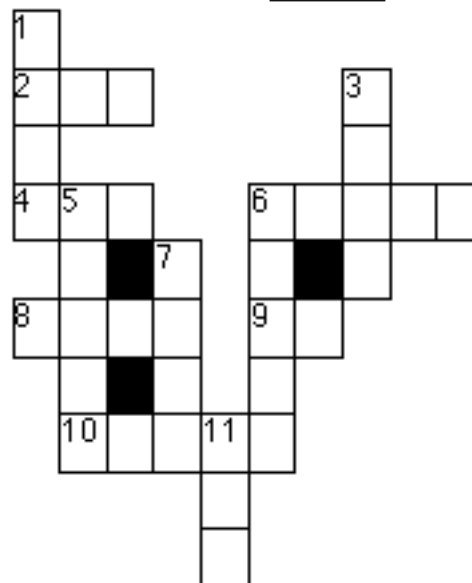
- ★★★★ 6. Complete the crossnumber puzzle.

DOWN

1. $(28 \times 126) - 21$
3. $? + 716 = 4220$
5. $6521 + 9963 - 12321 + 42896 + 30286$
6. $(364 \times 265) - 41282$
7. Average of 4728, 9630, 7465, and 725
11. $\sqrt{100489}$

ACROSS

2. $6000 - ? = 5486$
4. $280644 \div (300 + 64)$
6. $35^3 + 100^2 + 170$
8. $3 \times 10^3 + 3 \times 10^2 + 7 \times 10^1 + 6 \times 10^0$
9. Age the second year as a teenager
10. $\{[(238 \div 14) + 20] \times 1560\} + 18$



- ★★★★ 7. This weird kid from another planet multiplies differently from us! She gets the right answer, but her work doesn't look like anyone else's in class. Here's what she does:



<i>Given:</i>	<i>Multiply 2×38:</i>	<i>Multiply 40×38:</i>	<i>Add:</i>
4 2	4 2	4 2	4 2
$\times 38$	$\times 38$	$\times 38$	$\times 38$
	7 6	7 6	7 6
		1 5 2 0	$+ 1 5 2 0$
			1 5 9 6

Do these problems this way:

$$\begin{array}{r} 14 \\ \times 26 \\ \hline \end{array}$$

$$\begin{array}{r} 31 \\ \times 53 \\ \hline \end{array}$$

$$\begin{array}{r} 27 \\ \times 42 \\ \hline \end{array}$$

$$\begin{array}{r} 62 \\ \times 135 \\ \hline \end{array}$$

- ★★★ 1. A *perfect number* is one that is the sum of its proper divisors. Six is the smallest *perfect number*: $6 = 3 + 2 + 1$. The next smallest *perfect number* is between 20 and 30. Find it!

Answer : _____

- ★★ 2. Find the missing digits in this problem.

$$\begin{array}{r}
 317 \text{ r } 25 \\
 2 \overline{) 584} \\
 \underline{1} \\
 48 \\
 \underline{2} \\
 214 \\
 \underline{18} \\
 25
 \end{array}$$

- ★★★ 3. Carlos wants to learn to play golf, but he wants some information before he begins. He learned that the local 18-hole golf course is 6,550 yards long. It is a "par 72" course, which means that a good golfer should play the entire course with a total of 72 strokes.



- What is the average distance (rounded off) for each hole? _____
- What is the average number of strokes required per hole? _____
- For his first round, Carlos scored 108. How many strokes over par was he? _____

- ★ 4. A can of soda contains approximately (circle the best answer)

350 l

350 ml

350 cl

- ★★★ 5. Shomika was helping her family pick oranges in their grove. She took some oranges home to share with three friends. She gave 3 more than half to Jennifer. Angela got half of the remainder and 3 more. She gave Josie half of the remainder plus 3. When she got home, she only had 10 oranges left. How many did she have when she left the grove?

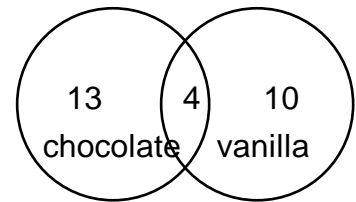
Answer : _____

- ★ 6. Solve this problem:

$$3 \times (8 + 6) - 8 = Y$$

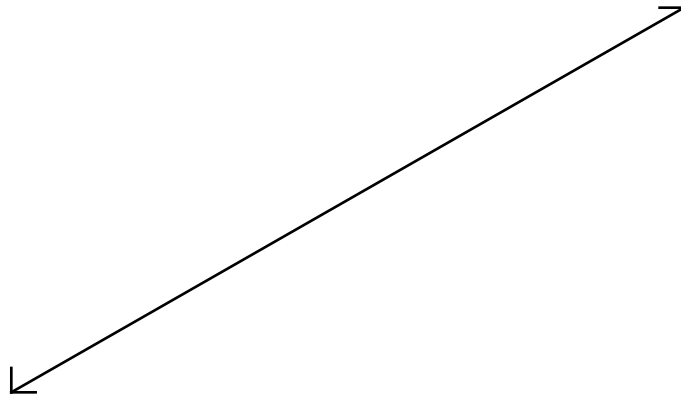
Answer: $Y =$ _____

- ★★ 7. Joann's class is planning a math celebration after half the class scores at least 100 stars in Sunshine Math Superstars. She surveyed the class to find out how many like chocolate cupcakes and how many like vanilla cupcakes. She organized the information to give to her mom, who is going to do the baking. Her results are shown to the right:



- a. How many students were surveyed? _____
- b. What percent (rounded to the nearest whole percent) like chocolate cupcakes? _____ %

- ★ 8. Fold your paper to show a line that is *perpendicular* to the one below .



- ★ 9. Five fifth graders decided to clean up their community on Earth Day. Armed with dozens of garbage bags, they began work at 8:30 AM. They took two 15-minute breaks and a half-hour lunch break. When they had worked 5 hours, they knew it was time to go home.
What time did they quit working?

Answer: _____

- ★★ 10.
$$\begin{array}{r} 3 \text{ weeks, } 4 \text{ days, } 13 \text{ hours, } 21 \text{ minutes} \\ - 1 \text{ week, } 5 \text{ days, } 18 \text{ hours, } 30 \text{ minutes} \\ \hline \text{___ week, ___ days, ___ hours, ___ minutes} \end{array}$$