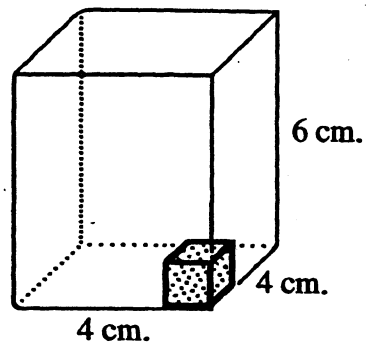
SUNSHINE MATH - 4
Jupiter, IX

Name: _____

(This shows my own thinking.)

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



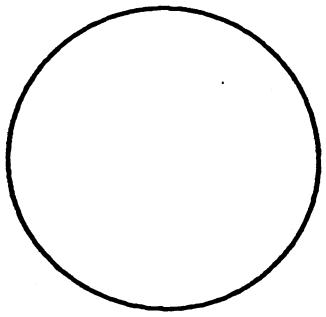
Answer: _____ cubic centimeters

★★★ 2. Mario got his $10.00 weekly allowance on Monday. He spent 25% of his weekly allowance on Tuesday, 15% of his weekly allowance on Wednesday, and 10% more on Thursday. How much money did he have left to spend for the rest of the week?

Answer: _____

★★ 3. Shade in $\frac{3}{4}$ of $\frac{1}{2}$ of $\frac{1}{2}$ of the circle. What fraction of the circle is shaded?

Answer: _____ is shaded



★★★★ 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.

DIAGRAM:

Answer: _____ outfits are possible

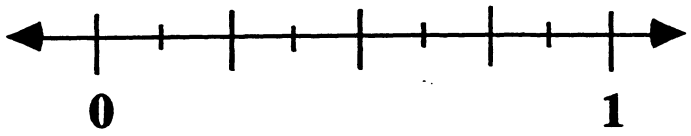
★★★ 5. Sonya has x amount of money. Bob has three times as much as Sonya has, less $14.62. Write an expression, using x, that tells how much does Bob has.

Answer: $ _____

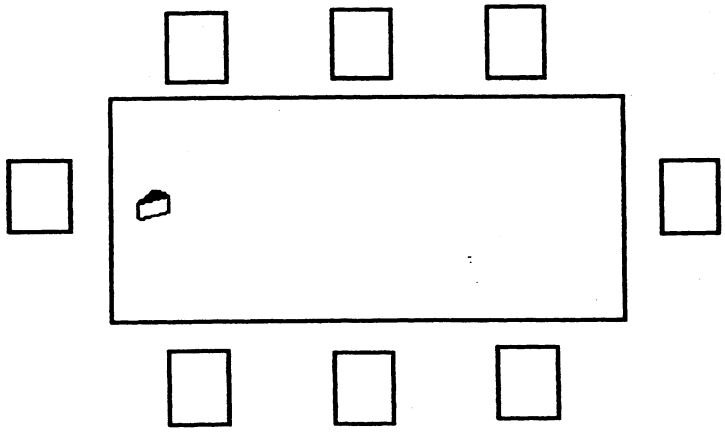
★ 6. Mr. Harmen graded 56 papers Monday and 87 papers Wednesday. How many papers did Mr. Harmen grade in the two days?

Answer: _____

★ 7. Place the letter X on the number line where $\frac{5}{8}$ would be.



★★ 8. Use logic and the clues given to find out who will be sitting in what chair at the Halloween party. Fill each chair with the character's initial.



CLUES

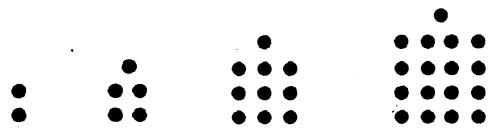
The Jack-o-lantern sits on the Ghost's immediate right.
Sleeping Beauty sits across from the Prince.
The Witch is to the right of Sleeping Beauty.
The Prince sits between the Jack-o-lantern and the Fireman.
The Ghost sits at the head of the table with the wedge of cheese.
The Clown sits to the left of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

SUNSHINE MATH - 4
Jupiter, X

Name: _____

(This shows my own thinking.)

★★ 1. Draw the fifth and sixth figures to follow the pattern of dots below.



1 2 3 4 5 6 .....

★★★ 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? _____

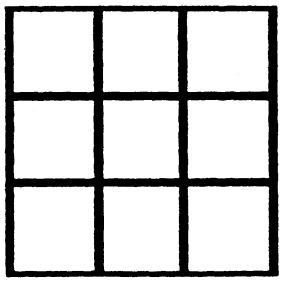
b. What is the number of the figure that is made with 401 dots? _____

c. Let *n* stand for any figure number. Use *n* to tell how many dots there would be in the *nth* figure. _____

★★ 3. Margo's dog had a litter of 7 pups, all alike except for coloring. The mother and one pup weighed 15 pounds. The mother and two pups weighed 17 pounds. How much did the litter of 7 pups weigh by themselves?

Answer: _____ pounds

★★★★ 4. In a Magic Square, the sums of the columns, rows and diagonals are all the same. Using the digits 1-9 only once, fill in the blanks to make this figure a magic square with a sum of 15.



★ 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

★★★ 6. Mr. Trumpet would like to offer you a job. He will hire you for ten days. He will pay you one of three ways:

a. $1.00 the first day, $2.00 the second day, $3.00 the third day and so on.

b. 10¢ the first day, 20¢ the second day, 40¢ the third day, and each day twice the amount of the day before.

c. $6.00 each day for all ten days.

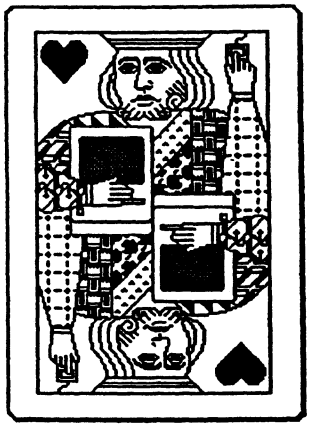
Which way would pay you the most money? Answer:_____

★ 7. How many gallon jugs would you need to hold 3 and $\frac{3}{4}$ gallons of lemonade?

Answer:_____jugs

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

Answer: _____



SUNSHINE MATH - 4
Jupiter, XI

Name: _____

(This shows my own thinking.)

★★ 1. The corner of this paper measures 90 degrees. Fold the lower right-hand corner of this paper so it represents two 45 degree angles. Trace the fold line with your pencil.

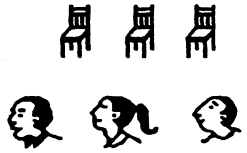
★★ 2. Estimate the result of the following problem as a whole number.

$$4\frac{1}{43} + 2\frac{15}{16} - 1\frac{24}{26} + 5\frac{11}{12} - 3\frac{3}{61}$$

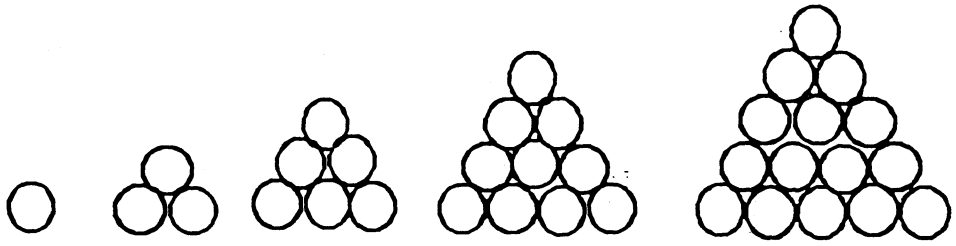
Answer: _____

★★★ 3. How many ways can 3 students be arranged in three chairs?

Answer: _____ ways



★★ 4. Observe the circles in the triangle-shaped stacks. Fill in the missing numbers to show how many circles are in the last two stacks.



1 3 6 ___ ___

★★ 5. Draw the next figure in the above pattern.

★★★ 6. In the pattern for problem 4, how many circles would be in the 10th figure?

Answer:_____

★★★ 7. The Florida Lottery is made up of the numbers 1 - 49. My mother has observed that the winning numbers many times are prime numbers.

a. List the prime numbers from 1 - 49: _____

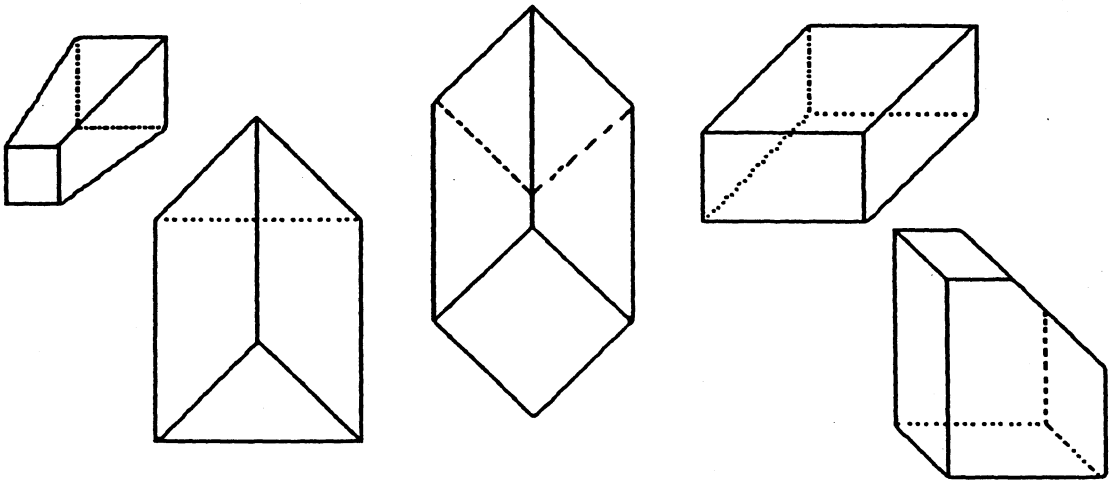
b. What is the probability of a prime number being picked randomly from the numbers 1 - 49? _____

c. Is the probability of picking a prime number greater than picking a number that is not prime? _____

★★★ 8. Put <, >, or = in each blank below, to give true statements.

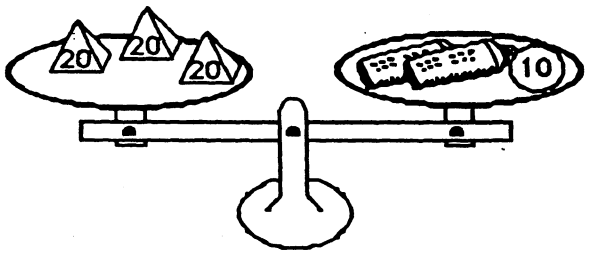
(a) 3030 _____ 3300 (b) (345 + 253) _____ 600 (c) 1.09 _____ 1.090

★★★ 9. Circle the following solid figures that have at least one square face.



★★ 10. Lu Win likes to balance things. She balanced three 20-gram weights with a 10-gram weight and two new tubes of glue. How much did each tube of glue weigh?

Answer: _____ grams



SUNSHINE MATH - 4
Jupiter, XII

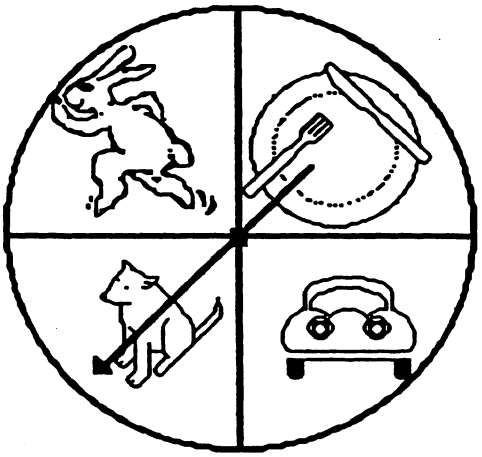
Name: _____

(This shows my own thinking.)

★★★ 1. A snail climbs up a wall 20 feet high. Each day the snail climbs 5 feet, but each night it slips backwards 4 feet. How many days will it take for the snail to get to the top of the wall?

Answer:_____days

★★ 2. Raoul got to spin this spinner, to see what chore he had to do Saturday mornings. He could wash the dishes, wash the car, wash the dog, or change the paper in the rabbit cage. What is the chance he will have to wash something Saturday morning, as a fraction and as a percent?



Answers: fraction: _____

percent: _____

★ 3. A costume shop had a special sale. Bob got his clown costume for $\frac{1}{2}$ off the marked price of $25. How much did the costume cost?

Answer: _____

★ 4. If today was October 11th, how many days would be left in the current year?

Answer:_____days

★★★ 5. **What Number Am I ?**

I am a three-digit number.
I am less than 200.
I am divisible by 12, and by 9.
My units digit is less than my tens digit.

Answer: _____

★★★ 6. Suppose that humans walk about 10,000 steps per day, on average.

a. Your average step is probably about 18 inches.
If so, how many ***inches*** per day do you walk?_____

b. How many ***feet*** per day do you walk? _____

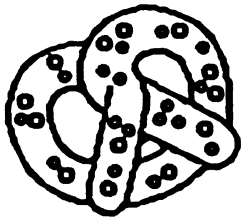
c. How many ***miles*** per day do you walk, to the nearest whole mile? _____

★★ 7. If you tend to be one of those people who taps their foot, picks their nails, drums their fingers, or moves around in their seat, there may be some good news. Although your fidgeting may be annoying to others, researchers at the National Institute of Health reports that one of these habits can burn as much as 800 calories per day. If you want to lose weight, this might help.

For someone who fidgets as above, how many calories per hour are burned up? Assume the person sleeps 8 hours per day, and doesn't fidget while asleep.

Answer: _____

★★★ 8. It costs Mr Kringle $10 to make 100 giant pretzels for his bakery. If he sells his pretzels for 25¢ each, how much profit will he make after selling all 100 pretzels?



Answer: $_____ profit