# SUNSHINE MATH - 5
Saturn, IX

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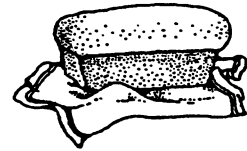
★★ 3. Jack wants to buy an equal number of green, blue and white ornaments for his holiday tree. Green ornaments come in packages of 3; blue ornaments come in packages of 6; the white ones come in packages of 4. What is the least number of packages of each color he must he buy?
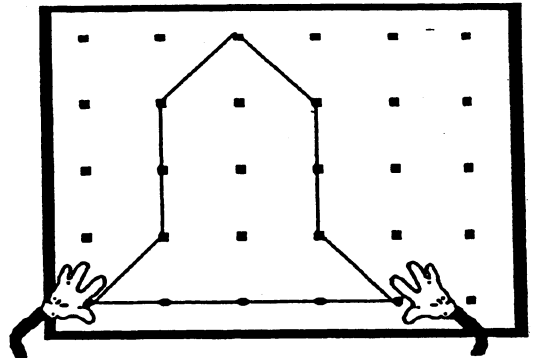
Answers: _____ packages of green
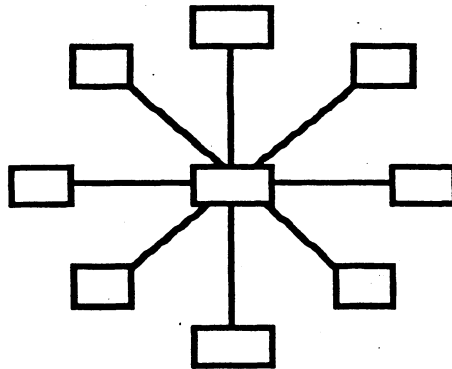
_____ packages of blue

_____ packages of white

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

a. Draw any lines of symmetry on the space ship.

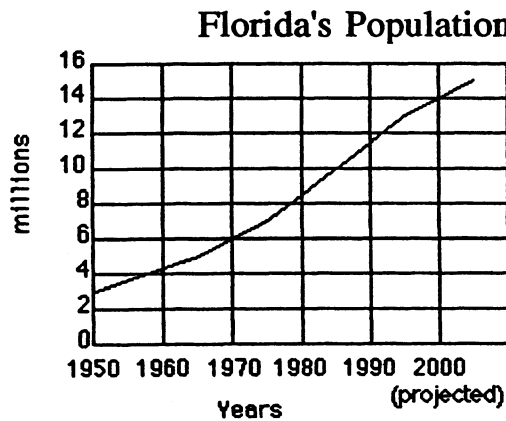b. Find the area of the space ship by counting whole and partial square units.

Answer: The area is _____ square units

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★★★ 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.

Florida's Population

a. What is the increase in population from 1950 to 2000?_____

b. What was the approximate population in 1980? _____

c. At the current rate of increase, what would the population be in 2010? _____

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

a. Put a ✓ on the spinner that gives the white team the best chance to win.

b. What is the white team's chance of winning on the spinner with ✓? _____

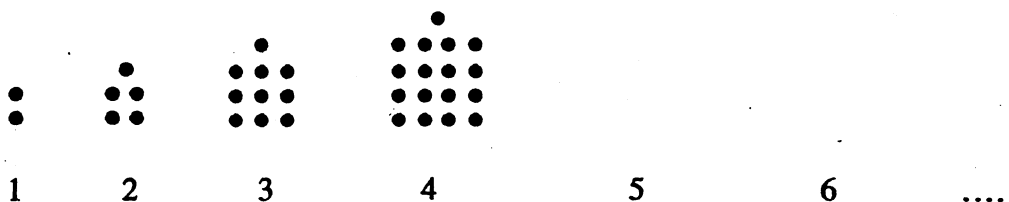c. What is the chance the white team would not win, on the spinner with ✓? _____

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SUNSHINE MATH - 4
Jupiter, X

★★ 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.

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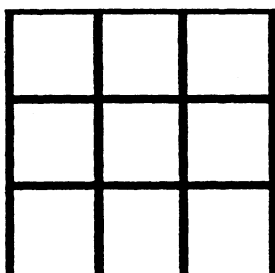
★ 5. Back in the old days, couples would enter marathon dance contests to win money. They would dance continuously, with only short breaks for food and drink. Some contests would go on for over a week. How many hours of dancing would there be in a 7-day week?

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: _____
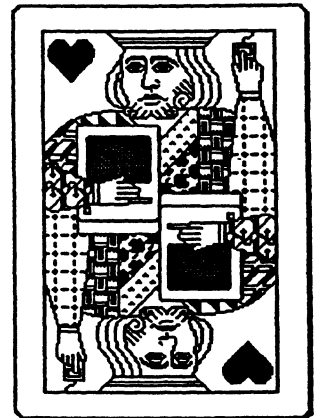
SUNSHINE MATH - 5
Saturn, XI

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

35
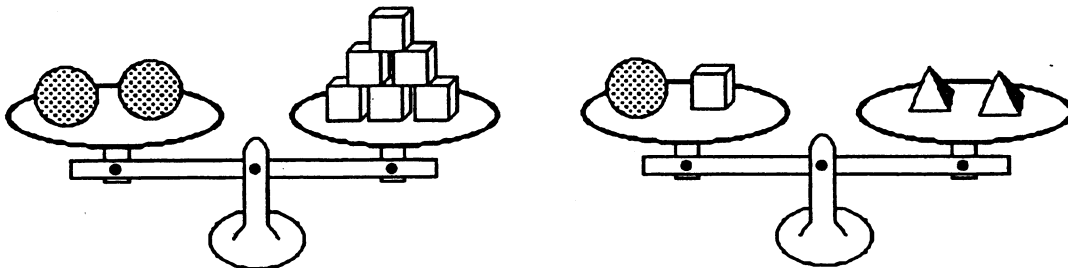
★★ 5. Sunny Ridge Elementary School was collecting cans for a food drive. The first two days of the drive, they collected 103 cans. They collected 5 cans more on the first day than on the second day. How many cans did they collect each day?

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: _____

20 % off

★★★★ 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 X 45, first multiply 60 X 40 to get 2400. Then add on 60 X 5 or 300, and you have 2700. Then add on 3 X 40 or 120, and you're up to 2820. Next add 3 X 5 or 15, and you have 2835. So 63 X 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.
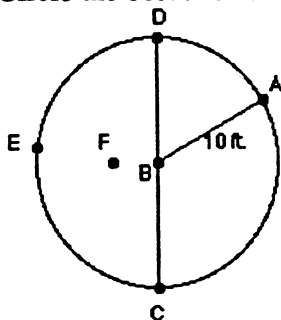
$\overline{FE}$ 12 ft.   10 ft.   8 ft.

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

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

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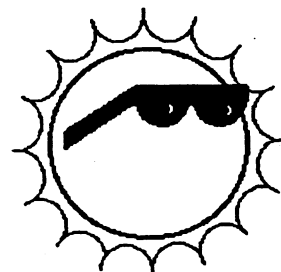
★★★   4.   A number n is divided by 3 and the result is multiplied by 7. Then 6 is subtracted from the result to give 36. What is the original number n ?

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

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.

        0   7 miles high
        0   a little less than 7 miles high
        0   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?
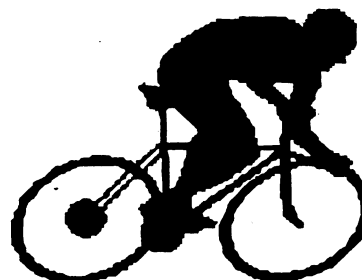
Answer: The intervals were spaced every _____ miles.

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

crosses finish line

Speed

0   1   2   3

Time in hours
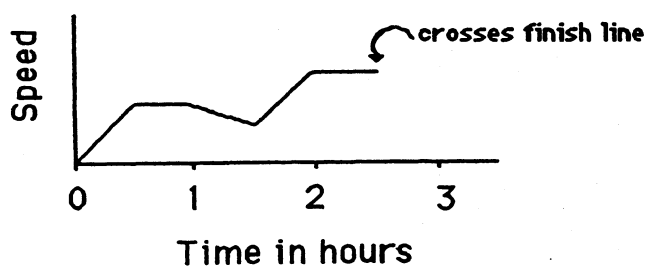
a. About how long did Juan take to finish the race?   Answer: _____

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: _____