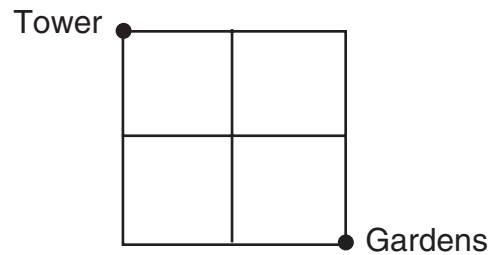


61**Practice Problem**

A tourist at the Tulip Festival asked a guide how to get to the Windmill Tulip Gardens. The guide showed the tourist the following map. “You are at the Tower. Here are the Windmill Tulip Gardens,” she said as she pointed to the Gardens on the map.



The tourist can only walk along the streets shown on the map, and she doesn't want to retrace her steps. How many different paths could she take to the Gardens?

62**Practice Problem**

Astronomers all over the world were amazed at Doctor Star's discovery of a new solar system. Doctor Star reported that there was a sun fifty times larger than our sun, and around it was a whole system of planets. He found that the system has four planets in the first orbit, 9 planets in the second orbit, 16 planets in the third orbit and 25 in the fourth orbit. If the number of planets in the orbits continued to increase in the same way, how many planets would be in the eighth orbit?

Practice Problem

Danielle is lost in the jungle with her pet crocodile, her monkey, and her pet parrot with a broken wing. She finds a rickety rope bridge that goes over a huge river with rapids. Danielle realizes that she will have to hold on to the side of the bridge with one hand while leading an animal friend with the other hand as they cross the bridge. She can't leave the crocodile with the monkey and she can't leave the parrot with the crocodile. What is the smallest number of trips Danielle will have to make across the rickety bridge to get all three animals over the river?



64**Practice Problem**

Elizabeth, Dolores, and Tera are at the supermarket together. Each of the girls has part of the list of things they need for the cookout. As they go to the checkout stands, they decide to each get in a different line. As Elizabeth gets in line, she notices that there are three more people in front of her than are in front of Dolores, and that there are two times as many people in front of Tera as there are in front of Dolores. The total number of people in front of Elizabeth, Dolores, and Tera is 11. How many people are in front of each of the girls?

65**Practice Problem**

“You’re kidding,” said Caleb to his friend Donna. “You want to be THAT when you grow up?” Alice, Bogdan, Caleb, and Donna are talking about what they want to do when they grow up. Together they want to be a doctor, a pilot, a forest ranger, and a teacher. Caleb enjoys helping his younger brother learn his math facts. Donna gets motion sickness. Both Donna and Bogdan hate to go camping or hiking. Can you match each person with each occupation?

NAME _____

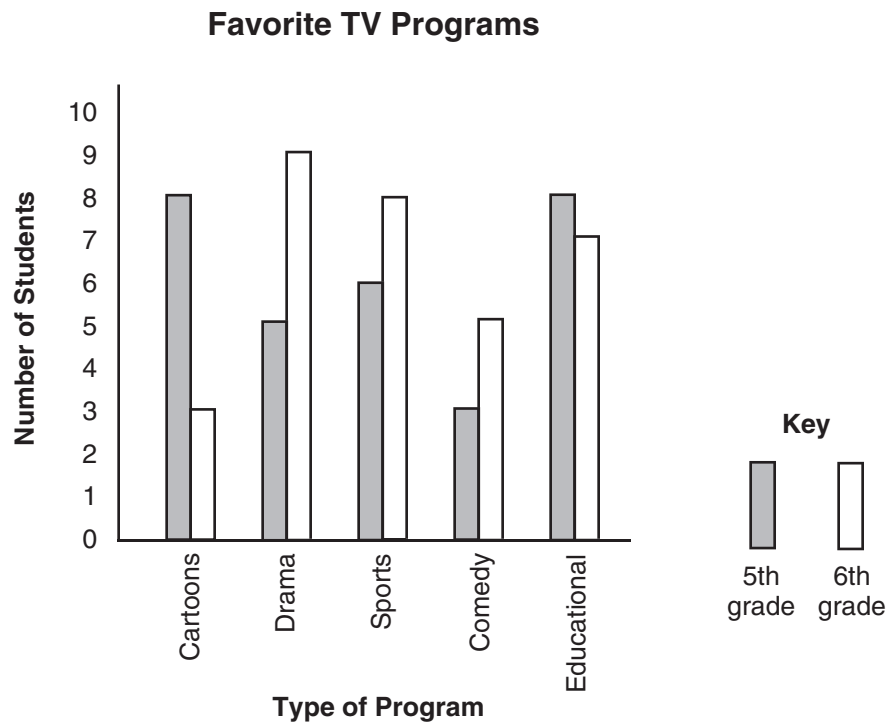
66

Practice Problem

At Los Amigos School there are 70 girls who played soccer in the fall and 60 girls who played softball in the spring. 45 of the girls played both soccer and softball. How many girls played soccer, softball, or both at Los Amigos?

Practice Problem

The 5th and 6th grade students at Morton School filled out a survey about their favorite kinds of TV programs. Use the graph to find out which grade each of these students is in:



- Marta's grade had higher numbers than the other grade in three categories.
- Jenisha's grade had more students that voted than the other grade.
- Benito's grade had 19 students in all that voted for cartoons, drama, and sports.
- Ray's grade had 20 students in all that voted for sports, comedy, and educational programs.

Which grade is each student in?

NAME _____

68

Practice Problem

On the night of Carmella’s slumber party, there was a terrible storm. The main road was flooded, so Carmella and her ten friends decided to have a “phone party” instead. The idea was for each friend to make a call to each of the other friends. With all 11 friends taking part in the phone party, how many calls had to be made?

NAME _____

69

Practice Problem

Stacey has a collection of coins from five different countries. Half of the coins are from England, $\frac{1}{6}$ are from Mexico, $\frac{1}{6}$ are from India, $\frac{1}{12}$ are from Italy, and 7 are from Spain. How many coins are in the collection, and how many are from each country?

NAME _____

70

Practice Problem

Pietro's Pizza and Sandwiches delivered lots of sandwiches one rainy Saturday. They took orders for 30 sandwiches with cheese, 25 with tomatoes, and 18 with pepperoni. There were 18 sandwiches with cheese and tomatoes, 14 with tomatoes and pepperoni, and 10 with all three toppings. There were 8 sandwiches with ONLY cheese. How many sandwiches did they deliver?

NAME _____

71

Practice Problem

Jerry is down to the last problem in the Math Olympics. He has to make five triangles using only five straight lines. At first he thought it was impossible, but then he solved it and became a star. How did Jerry solve the problem?

72**Practice Problem**

Anthony gives this puzzle to Rafael to solve: “In a jar are 20 red cubes, 12 blue cubes, 28 green cubes, 14 yellow cubes, 89 pink cubes, 67 purple cubes, and 9 brown cubes. If you can’t see inside the jar and you take out 1 cube at a time, how many times will you have to take out a cube until you are sure to have 2 cubes of the same color?”

Anthony also gave Rafael this clue: “Start with only a few different colors of cubes.”

73**Practice Problem**

Every year the monarch butterflies come to the milkweed field behind Mrs. Jay's cottage. Usually a large number arrives, and then each day some of them disappear. This year 2,000 butterflies arrived. On the first day after they arrived, 100 butterflies disappeared. On the second day, twice that number disappeared. On the third day, twice as many butterflies disappeared as on the day before. If the butterflies continued to disappear at the same rate, how many days did it take for all the butterflies to disappear?



NAME _____

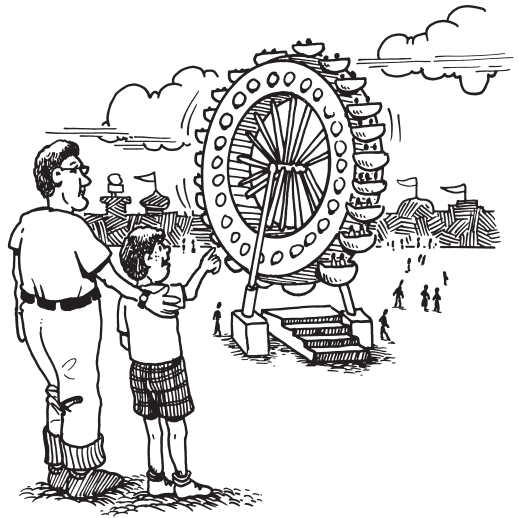
74

Practice Problem

Mom, Dad, Daniel, and Marty are having a family meeting at the square kitchen table. Each family member is on one side of the table. The kids can't sit next to each other because there has been a big fight. Mom starts the meeting by turning to her right and asking Marty to explain what happened. Where is everyone sitting at the table?

Practice Problem

Andre and his father have gone to the Family Fun Amusement Park. Andre's favorite rides are the Loop-the-Loop, which takes 10 coupons to ride; Careening Cars, which takes 7 coupons; the Snake, which takes 5 coupons; and the Mad Musketeer, which takes 2 coupons. Andre's father gives him 32 coupons. If Andre uses all the coupons for his favorite rides, how many different combinations of rides could he take?

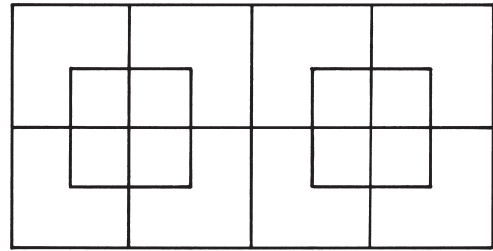


NAME _____

76

Practice Problem

Mary and Brianna were looking at the tile design on the wall. “How many squares do you think are in the design?” asked Mary. Brianna answered, “I think there are 16.” How many squares can you find?



77**Practice Problem**

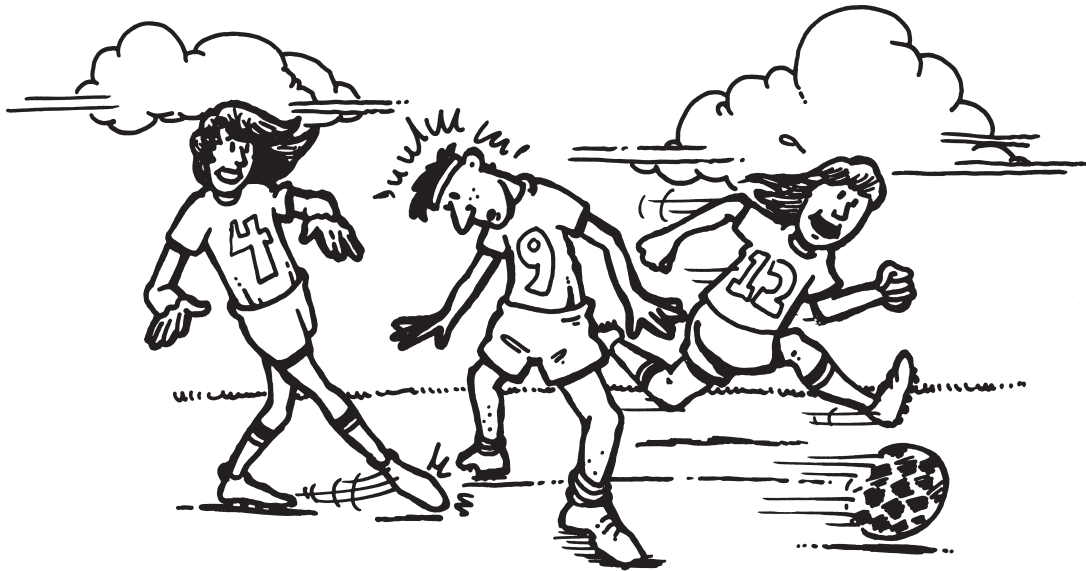
Madeline and Lily are delivering cards for the school fundraiser. They start at Lily's apartment on Adams Street. They walk south 3 blocks and deliver 2 boxes of cards to Madeline's dance teacher. They walk east 4 blocks and deliver 3 boxes to Lily's aunt. Then they walk north 1 block and east 2 blocks to deliver a box to Madeline's grandparents. Finally, they go north 2 blocks, then west 3 blocks, to deliver a box to Lily's piano teacher. How many blocks are they from Lily's apartment?

78**Practice Problem**

Adriana and her mother are buying snacks for the family hike in the Green Mountains. They are standing in front of two rows of three clear plastic bins at the store. The banana chips are above the malt balls and to the left of the trail mix. The raisins are to the right of the carob chips and below the sunflower seeds. How are the snacks arranged in the bins?

Practice Problem

On September 30, Jada's and Ethan's soccer teams both used the Kennedy School field for soccer practice. Jada's team uses the field every 3 days and Ethan's team uses it every 5 days. During October, how often will the teams use the field on the same day?



NAME _____

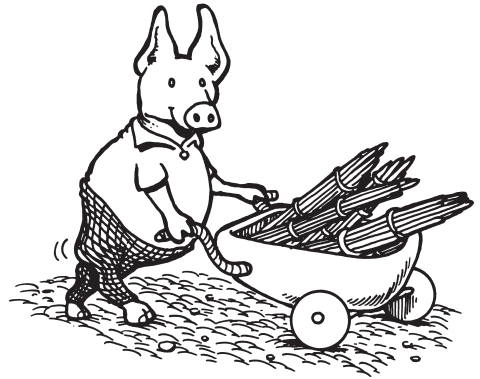
80

Practice Problem

Janine is helping at her aunt's nursery. She's counting the containers of daisies, lilies, roses, and ferns. She counts $\frac{1}{2}$ as many daisies as roses, and 15 fewer lilies than roses. She counts $\frac{1}{4}$ as many ferns as roses. If there are 95 containers in all, how many are there of each kind of plant?

81**Practice Problem**

Will went to the forest one day to collect sticks. He bundled the sticks, tossed them in his wheelbarrow, and left the forest. On his way home, Will passed his brother's brick home. His brother asked if he could have one-fifth of Will's bundles of sticks. Will kindly gave his brother the bundles and went on his way. Soon afterward Will tripped and lost one-half of his load down a deep ravine. About a mile farther on, he swerved to miss a squirrel and accidentally tipped into a lake all the bundles he had left. Will was able to rescue one-half of the wet bundles. Poor Will arrived home with only 10 bundles of sticks. How many bundles did Will have when he left the forest?



82**Practice Problem**

Seth and Sergio are going on a plane trip to visit their grandparents. Both boys want to sit by the window. To settle the argument they have decided to play a game, and whoever wins gets the window seat. They will use a number cube with six faces marked 1, 2, 3, 4, 5, and 6. They will take turns rolling the number cube 3 times in a row. The first player to get a total of 6 points in the 3 rolls is the winner. How many different ways can the winner combine 3 rolls of the number cube to total 6? (1 + 4 + 1 is different from 1 + 1 + 4.)

NAME _____

83

Practice Problem

This is Matt's first day in fifth grade. His classroom is on the second floor of Public School 137. There are four street entrances to the school. There are four stairways to the second floor, and there are two doors into Matt's classroom. How many different paths can he take from outside the school into his classroom?

Practice Problem

Ryan's brother Clay held on to the large package that had arrived for Ryan's birthday. The package came from their uncle in Australia. "Now," said Clay, "on this package are purple stamps worth 40 cents and green stamps worth 30 cents. There are 25 stamps on the package, \$9.00 worth of postage. Tell me how many stamps there are of each color and the package is yours!" Can you help Ryan solve the problem and open his package?



85**Practice Problem**

The Strawberry Patch is a dessert shop where everything is made with strawberries. On Jasmine's first day on the job, she made 3 strawberry shortcakes the first hour, 5 the second hour, 6 the third hour, and 8 the fourth hour. She also made strawberry sundaes. She made 6 the first hour, 7 the second hour, 5 the third hour, and 6 the fourth hour. If the patterns continued, how many shortcakes and sundaes all together did Jasmine make during her first eight hours at the Strawberry Patch?

Practice Problem

Calvin's little brother jumped up and down. "I can hear it! Here it comes!" he shouted. Around the corner came the Thanksgiving Day Parade. Half of the people in the parade were on floats; $\frac{1}{4}$ of the people were in marching bands; the clowns made up $\frac{1}{8}$ of the parade; movie stars made up $\frac{1}{16}$ of the people in the parade; and there were 8 city officials. How many people were in the parade, and how many were in each group?



NAME _____

87

Practice Problem

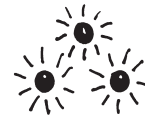
How can half of twelve be seven?

88**Practice Problem**

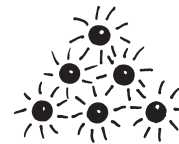
Chris designed a game for his little sister's birthday party. The object of the game is for each player to take two teddy bears, two toy rabbits, and two stuffed lions across the lawn in a wagon to the finish line. Two toys can fit in the wagon at one time. Rabbits and lions cannot be in the wagon at the same time, nor can the rabbits be left alone with the lions at either the start or the finish line. What is the smallest number of trips a player can take?

89**Practice Problem**

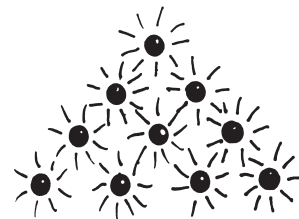
The crowd waits and watches the big, dark pine tree that has been set up downtown for the opening of the holiday season. There are big lights that look like candles on the tree. The mayor is ready to turn on the lights, one row at a time. When he flips the switch, the top light goes on, and then one at a time, each row lights up. When the first two rows are on they look like this:



When the next row is lighted, the tree looks like this:



When the next row is lighted, the tree looks like this:



At this rate, how many lights will be on if there are eight rows of lights?

NAME _____

90

Practice Problem

At the park, Lilia counts 8 people playing softball and 7 people at the swimming pool for every 9 people having picnics. If there is a total of 216 people having picnics, swimming, and playing softball, how many are doing each activity?

91**Practice Problem**

Imagine that you are a dog trainer arranging your prize-winning students for a photo. You are standing behind the dogs and making sure they stay in order. You want the black pug to be somewhere to the right of the golden retriever and behind the poodle. The Irish setter should be in front of the golden retriever and to the left of the German shepherd. The Labrador must be between the golden retriever and the black pug. How will the dogs be arranged for their picture?

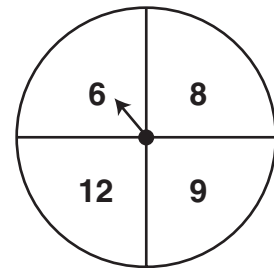
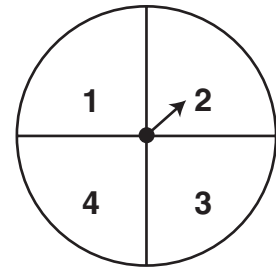


92**Practice Problem**

Val, Emika, Trina, and Evan are cutting out magazine pictures to make collages called “All About Me.” They have cut out pictures of a ballet dancer, a biker, a runner, and a chess player. Emika is always on her toes. Trina and Val can’t sit still very long, and Val hates to run. Which picture do you think each person put on his or her collage?

93**Practice Problem**

Tony and Carmen are playing a game with 2 spinners. They spin both spinners and multiply the two numbers they spin. If the product of the two numbers is a multiple of 3 or 4, Tony gets 1 point. If the product of the two numbers is a multiple of 6, 8, or 9, Carmen gets 1 point. The first player to score 20 points is the winner. Does one player have a better chance of winning than the other? Is this a fair game? Why or why not?

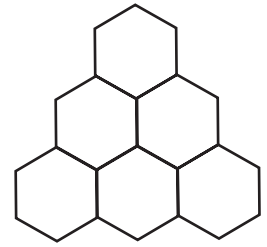


94**Practice Problem**

Amelia made up a card trick and said to her friend Grace, “Arrange seven cards so that when you lay them faceup on the table they are in order: ace-2-3-4-5-6-7. Deal the cards like this: Turn the first card, which must be the ace, faceup on the table. Put the next three cards at the bottom of the stack. Put the next card, which must be the 2, faceup on the table. Then put the next three cards at the bottom of the stack. Keep repeating this pattern until all the cards are on the table.” How does Grace have to arrange the cards in the stack?

95**Practice Problem**

Isabel has been watching workers construct a building across the street from her home. Now the workers are making a mosaic design out of hexagon-shaped tiles. The first three rows of the design look like this:



The workers continue the same pattern up to the widest row of 10 tiles, and then they continue the pattern in reverse down to a row of 1 tile. How many tiles will the workers use all together?

NAME _____

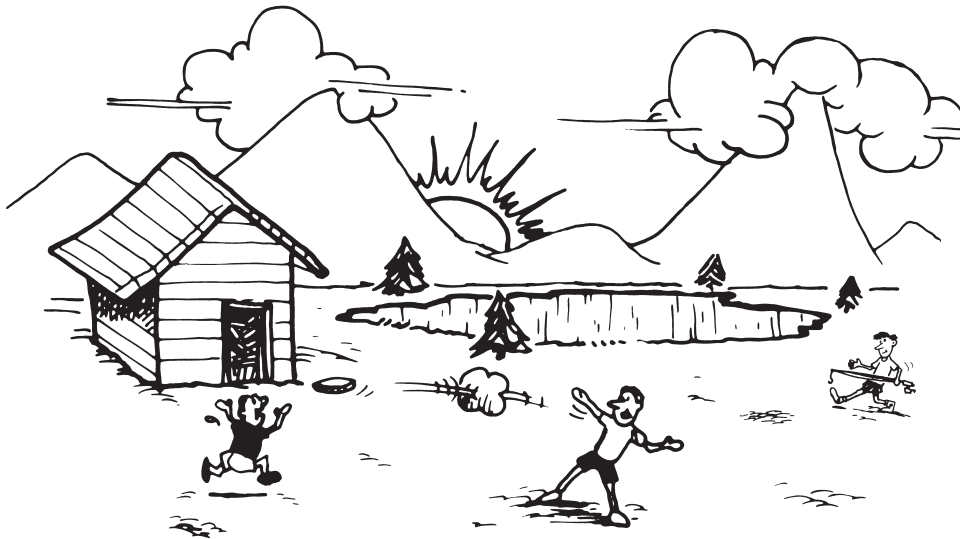
96

Practice Problem

Sonia is looking at the color of the bikes in the bike rack. There are 5 fewer red bikes than blue bikes, and there are 6 more blue bikes than black bikes. If there are 55 bikes in all, how many bikes of each color does she see?

Practice Problem

Camp Whitewater is open for the summer. Once again the woods are alive with shouts, games, and the running feet of happy campers. On the first day, four campers arrive, filling up one cabin. The next day eight new campers arrive, filling up 2 more cabins. Each day, the number of new campers is twice the number of the new campers from the day before. If the campers keep arriving at this rate, how many cabins will be filled at the end of the sixth day of opening week?



NAME _____

98

Practice Problem

Yasmine and Jill are making smoothie mix at Smoothie City. They put in a total of 7 quarts of orange juice and mango juice. They put in $2\frac{1}{2}$ times as much orange juice as mango juice. How many ounces of orange juice and how many ounces of mango juice did they put in the mix?

NAME _____

99

Practice Problem

Charmaine proudly holds on to the \$12.00 that she and her sisters have saved for a Father's Day present. She is looking at the four kinds of fishing lures on display: Blue Bugs, which cost \$5.00 each; White Wheelies, which cost \$3.00 each; Green Darters, which cost \$2.00 each; and Pink Puffins, which cost \$1.00 each. How many different combinations of fishing lures can Charmaine buy with \$12.00?

NAME _____

100

Practice Problem

At Jamal's camp the campers were divided into four groups: the Falcons, the Bears, the Eagles, and the Lions. There were two-thirds as many Falcons as Bears, and 2 fewer Eagles than Bears. There were three-fourths as many Lions as Bears. If there were 80 campers in all, how many were in each group?

101**Practice Problem**

“Hello, Grandma?” Charlie said into his cell phone. “I’m lost!” Charlie was visiting his grandparents for the summer, and that morning he had gone out for a long bike ride. He realized he was lost when he was in front of the public library on Walnut Street. He explained that to his grandmother, who said, “Go north for about two blocks on Walnut until the road ends. Go west past the park for two blocks. Go north three blocks to Elm. Go right on Elm, and the house is two blocks east.” If Charlie could go in a straight line to his grandmother’s house, how many blocks would he travel?

102**Practice Problem**

“Here we go!” shouted Marla. She was taking her six grandchildren—Shana, Mark, Lorena, John, Tamara, and Dario—for a ride on the lake in her speedboat. Everyone was strapped in and holding on. Dario dragged his left hand in the water and sprayed water on John, who was sitting directly behind him. Tamara said she was squashed between Dario and Lorena. Mark was mad because he didn’t get a seat on the side, where he could drag his hand in the water. Where were all the grandchildren sitting in the boat?

103**Practice Problem**

Devin's mother handed him a sheet of paper.

"Here is your summer chore schedule," she said. "We'll start counting days on July 1." Devin moaned. "Oh no! You mean I have to take out the trash every sixth day, walk the dog every third day, and clean out the rabbit cages every twelfth day?"

If Devin continues with his schedule through August, how many times will he have to do all three chores on the same day?

Practice Problem

The king has decided that if someone can cut Rapunzella's hair to a length of exactly three feet, then he will let her out of the tower. The first night some children line up and cut off three feet of her hair. The second night a few knights stand on each other's shoulders and cut off one-fifth of the rest of her hair. The third night a cabinet maker and sail maker cut one-half of the rest of her hair. On the fourth night, a mountain climber scaled the tower and cut off three-fourths of what was left of Rapunzella's hair, leaving exactly three feet. At last Rapunzella was free! How long was Rapunzella's hair before the children cut off the first three feet?



105**Practice Problem**

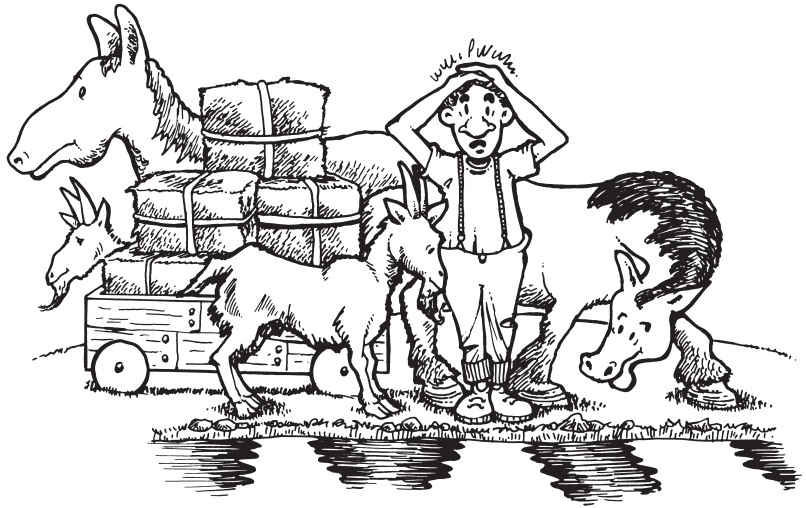
While looking at the school lunch menu, Jorge had to figure out how much money he had in his pockets. He discovered that he had a lot of coins. Jorge found 1 more half-dollar than quarters, 2 more dimes than quarters, 1 less nickel than dimes, and 2 more pennies than nickels. If he spent between \$2.00 and \$5.00, and had at least one of each kind of coin, what combinations of coins could he have had?

106**Practice Problem**

Darryl is riding up the chair lift with his mother's sister Cheryl, Cheryl's son Merrill, and his mother, Carol. Each chair on the lift holds two people. Merrill's cousin's mother and Merrill's aunt's sister are not riding in the same chair. Cheryl's sister's son is riding in a different car than his mother's sister. How are they paired up in the chair lift chairs?

Practice Problem

Seth is on his way to a market to sell a load of hay, seven horses, and five goats. He comes to a river and must use a small raft to get across. Seth can take the seven horses, or the load of hay, or the five goats across at one time. Seth cannot leave the horses or the goats alone with the hay because they will eat it! What is the smallest number of trips Seth has to take to get the hay, horses, and goats across the river?



Practice Problem

Diana and Delenia are training for the 5-mile Run for Food, which helps raise money for a local food pantry. They have decided to see if they can improve their times by running on the same training course for 12 days. On the first day that Diana times herself, it takes her 80 minutes. For the next four days it takes her 79, 77, 76, and 74 minutes. On the first day that Delenia times herself, she takes 80 minutes. Her next four times are 76, 77, 73, and 74 minutes. If the sisters' patterns continue, which one will have the better time on her last day of training?

Practice Problem

The science museum has three special programs today: a movie about space, a play about the forest, and “The Magic of Science” show. 45 people saw the movie about space, 46 people went to the play about the forest, and 57 people saw the science show. There were 6 people who saw all three special programs, 31 people who saw the science show and the forest play, and 16 people who saw the movie about space and the forest play. There were 7 people who **ONLY** saw the space movie. How many people went to the special programs at the museum today?

110**Practice Problem**

On a rainy summer afternoon Gail and Shannon were making up puzzles for the checkerboard. It was Gail's turn to make up a puzzle for Shannon to solve. Gail said, "Find two different ways to place 14 checkers on the board, so that each row and each column on the 8-by-8 board has an odd number of checkers." Can you solve this puzzle?

111**Practice Problem**

The newspapers are full of the new discovery: the treasury of Great King Mathematicus. Just inside the stone door was a pyramid of alabaster eggs. Next to the pyramid of eggs was a sign: **WHOEVER COUNTS THE EGGS ON THE BOTTOM WILL BE LUCKY; WHOEVER MOVES THEM TO DO SO WILL NOT BE!**

The top two layers contained 4 eggs and looked like this:



The top three layers contained 10 eggs and looked like this:



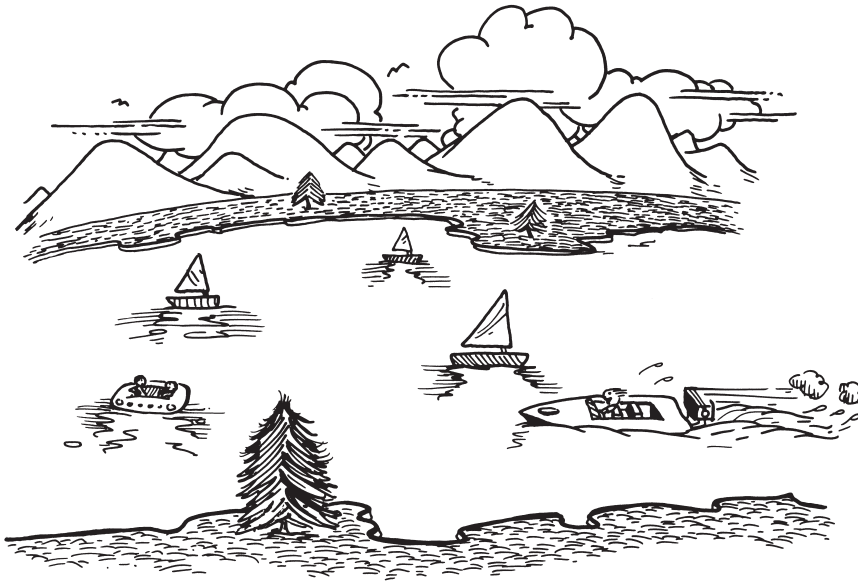
The top four layers contained 20 eggs and looked like this:



If the layers kept increasing at this rate, how many eggs were in the seventh layer, at the bottom of Mathematicus' pyramid?

Practice Problem

It was July 4th at Loon Lake. Billy was counting all the boats out on the lake. For every 20 powerboats, he counted 7 rowboats, 14 sailboats, and 3 kayaks. If Billy counted 42 rowboats, how many boats did he count all together, and how many of each kind?



NAME _____

113

Practice Problem

Jake is working at the Toy Market. He is looking at the display of plastic cats, dogs, and birds. He notices that there are 6 more cats than dogs and 10 fewer birds than dogs. If there are 101 animals in all, how many animals are there of each kind?

NAME _____

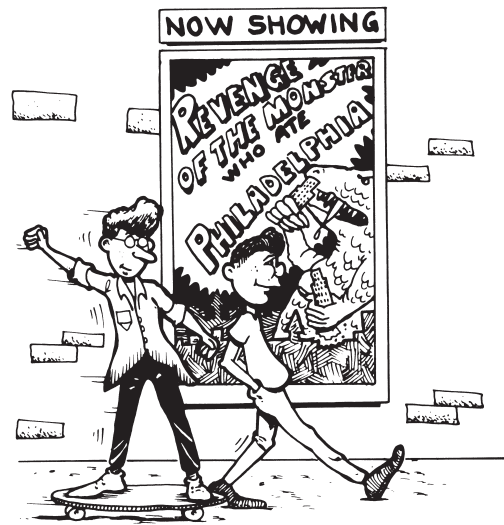
114

Practice Problem

Bruce and Leslie need enough chairs to seat everybody for Thanksgiving dinner. Everyone in the family will be there. There is one grandmother, one grandfather, three mothers, and three fathers. Each father has two daughters and each daughter has two brothers. The grandmother and grandfather have two sons-in-law and one daughter-in-law. How many chairs do Bruce and Leslie need to find?

Practice Problem

Libby, Yoeman, Wilbur, Zack, and Veruschka are meeting at the Regency Cinema to see *Revenge of the Monster*. They have agreed to be downtown in time for the bargain matinee. Yoeman and Veruschka have to pay for transportation to the theater. Zack and Libby don't need to worry about locking up their means of transportation. Zack carries a pair of shoes in his backpack, so he won't have to watch the movie with just his socks on. Yoeman likes to watch the city from a window as he rides to the theater. If the five friends come by skateboard, bus, bike, rollerblades, and the subway, can you match each friend with each way of getting to the theater?



116**Practice Problem**

The Flying Wannabees, a trapeze team, are trying to improve their safety record. They have designed a new safety net, which they put together wherever they perform. With their net, each supporting pole is connected to every other supporting pole with a heavy rope. If their safety net has 13 supporting poles, how many separate pieces of rope must be used to connect all the poles?

NAME _____

117

Practice Problem

Mele and a friend are feeding some of the many exotic fish that live in the coral reefs off their island in the South Pacific. Mele has brought a cooked banana from home to give to the fish. As the fish nibble on the banana, the girls count 24 fish, some with five large green spots and some with six blue spots. All together they count 139 spots on the fish they are feeding. How many of the fish have five green spots?

Practice Problem

Teachers at Yorba Linda School took a survey of their students. The question was: “What is your favorite activity on Saturdays?” The survey showed that $\frac{1}{3}$ of the students liked to play soccer, $\frac{2}{6}$ of the students liked to play baseball or softball, $\frac{1}{6}$ of the students liked to play basketball with friends, $\frac{1}{12}$ of the students liked to go to the movies, and 32 students liked to read, use the computer, or watch TV at home. How many students took part in the survey, and how many were in each group?

119**Practice Problem**

Kennedy School had a group of students visiting Washington, D.C. There were 158 students who visited the Capitol, 140 students who visited the Washington Memorial, and 175 students who visited the Lincoln Memorial. There were 50 students who visited all three places. There were 88 students who visited the Capitol and the Washington Memorial, and 95 students who visited the Washington Memorial and the Lincoln Memorial. There were 10 students who ONLY visited the Capitol. How many students from Kennedy School were visiting Washington, D.C.?

Practice Problem

An old pirate had 21 barrels. Seven were full of gold and silver. Seven were half full, and seven were empty. How did the pirate divide them among his three sons so all had equal amounts of gold and silver and an equal number of barrels?



121**Practice Problem**

Eight friends—Greg, Mary, Mike, Jenny, Justina, Ben, Annie, and Carl—are sitting in two rows. Imagine that you are standing behind the friends. Use the following clues to find where each friend is sitting.

- a. No girl is sitting next to or behind another girl.**
- b. Ben is sitting in the back row between two friends and somewhere to the left of Carl.**
- c. Mike is sitting between two friends in the front row to the left of Jenny.**
- d. Annie is sitting between two friends in the same row as Justina.**

Where is each friend sitting?

NAME _____

122

Practice Problem

It was a good day at the ball game for Murray's Mega Meals. They sold a total of 336 hot dogs and hamburgers. The number of hot dogs was $\frac{3}{4}$ of the number of hamburgers. How many hot dogs and how many hamburgers did they sell?

NAME _____

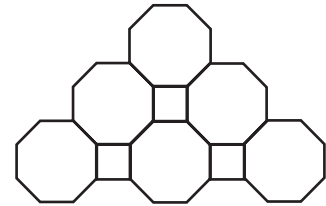
123

Practice Problem

There were grassy fields beyond Dominic's house at the end of the road, so Dominic had lots of visitors to his yard. A large brown toad and a small raccoon came regularly. The toad came every 3 days, and the raccoon came every 7 days. How many times in six weeks could Dominic see the toad and the raccoon on the same day?

124**Practice Problem**

Amber finished the geometric design she had been working on for art class. She made a design with tessellating octagonal tiles and square tiles. There is one octagonal tile in the first row, two octagonal tiles and one square tile in the second row, and three octagonal tiles and two square tiles in the third row. Amber kept using the same pattern to make more rows of tiles. If she used a total of 64 tiles in her design, how many rows of tiles were there?

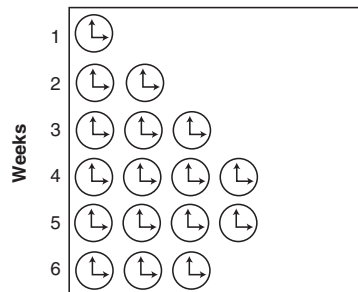


Practice Problem

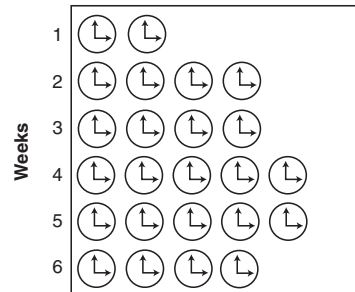
Ava, Esmeralda, Sandy, and Madison trained for the 'Round the Lake Race. Three training schedules are shown. Use the following clues to match three of the friends with their training schedules:

- Ava trained a total of 46 hours before the race.
- Esmeralda trained a total of 20 hours in week 4 and week 5.
- Sandy spent 32 hours training before the race.
- Madison trained for a total of 14 hours for week 5 and week 6.

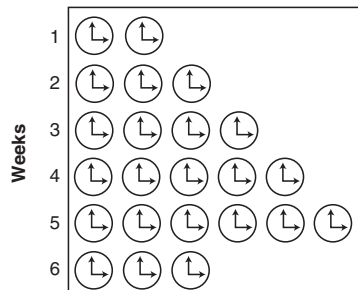
Which friend used each training schedule?



A



B



C

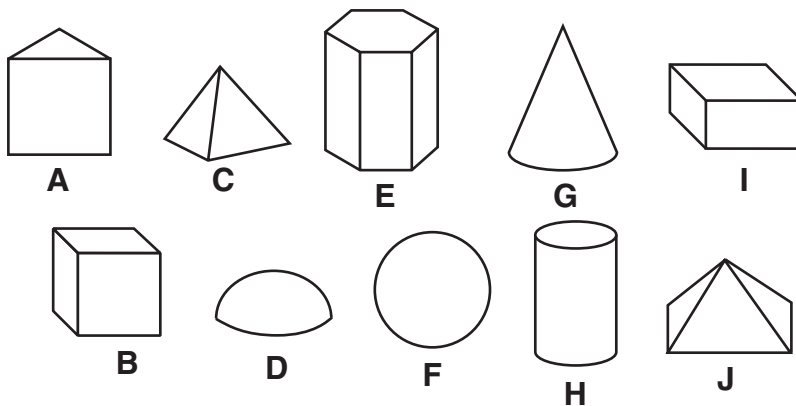
⌚ = 2 hours

Practice Problem

Morgan secretly put a coin under one of the shapes shown below. Then she told her brother Elijah that he could keep the coin if he figured out which shape it was under. She gave him these clues:

- It has flat faces.
- It does not have a curved surface.
- It has an even number of edges.
- Its faces are not all the same shape.
- Its number of vertices is divisible by 3.

Under which shape is the coin hidden?



127**Practice Problem**

Graciela, Arthur, Bernice, and Marcus are sitting down to play a card game. Each player is sitting across from his or her partner. Arthur is sitting to Bernice's left. Graciela is mad at her partner because she thinks he isn't paying attention. Where is everyone sitting at the table?



NAME _____

128

Practice Problem

A snail has been traveling toward the lake for a long, long time. After $6\frac{1}{2}$ meters, she stops and asks an owl how much farther she has to go. The owl tells her that the lake is still 13,675 millimeters away. In meters, how far will the snail have traveled by the time she reaches the lake?

129**Practice Problem**

Barnard and Barley's circus is in town, and Megan is going with her father. They have seats in the balcony. When Megan and her father arrive at the performance, they can choose from six entrances to the main arena on the ground floor. Then they can choose from one escalator, two stairways, and two elevators that go to the balcony. How many different paths can Megan and her father take from outside the arena to the balcony?

NAME _____

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Practice Problem

All 204 Lincoln School fifth-graders spent the day at the Peak Adventure Park. For every 12 students who liked the Big Chill Roller Coaster best, 7 students chose the Bumper Blast as their favorite, 10 students favored the Wild Water Slides, and 5 liked the Space Safari best. How many fifth-graders chose each of the activities as their favorite?

131**Practice Problem**

It is noon at the sandwich shop. Abby and Jill are making sandwiches for the lunchtime rush. Abby makes egg salad sandwiches, and Jill makes ham and cheese. During the first 15 minutes, Abby makes 5 sandwiches and Jill makes 7. During the second 15 minutes, Abby makes 9 sandwiches and Jill makes 10. During the third 15 minutes, Abby makes 14 sandwiches and Jill makes 14. In the fourth 15 minutes, Abby makes 20 sandwiches and Jill makes 19. If the girls' patterns continue for an hour and a half, how many sandwiches will each girl make during the last 15 minutes?

132**Practice Problem**

Last time the family went hiking, Ken left the backpack with the food in the car. This time Ken's family decided that everyone would carry some of the packets of food. They put one-sixth of the food packets into Mom's backpack. Then Ken packed two-fifths of the packets left. Next Darlene put one-half of what was left in her backpack. Then Kelly and Kasey each packed one-third of what was left. Finally Kendra put the last 5 packets in her backpack. How many packets does the family have?

133**Practice Problem**

Ariana and Kelly are playing a game with two number cubes. Each cube is numbered 1, 2, 3, 4, 5, 6. Each time they roll the cubes they multiply the two numbers that come up. If the product is an even number, then Ariana gets 3 points. If the product is an odd number, then Kelly gets 3 points. Is the game fair? Why or why not?

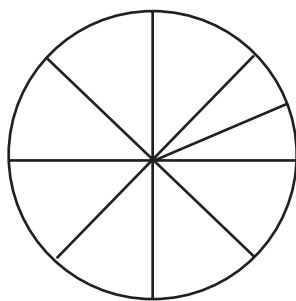
134

Practice Problem

Cory and Bonnie are looking at the tallies, which show the results of 80 spins of the spinner. They are using the tallies to help them figure out how to label each section of the spinner with a color. In order to help them, they will first decide which of these statements are true:

- a. The spinner is more likely to land on yellow than on orange.
- b. The spinner is less likely to land on red than on blue.
- c. There is a 50% chance that the spinner will land on red.
- d. The spinner is likely to land on orange once in every 16 spins.

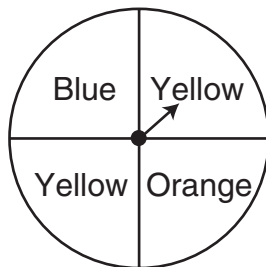
Which statements are true, and how did Cory and Bonnie label the spinner?



Color	Number of Spins
red	
yellow	
orange	
blue	

Practice Problem

Luke and Cordell are playing a game with a spinner that looks like this:



They also have 3 yellow cubes, 2 blue cubes, and 1 orange cube in a paper bag. They take turns spinning the spinner and drawing 1 cube out of the bag. If the spinner lands on the same color as the cube, Luke gets 4 points. If the spinner lands on a different color than the cube, Cordell gets 4 points. After they record their points, they put the cube back into the bag. The first player to have 24 points is the winner. Is this a fair game? Why or why not?

136**Practice Problem**

Jose and Xavier are playing a game with 3 pennies. They flip all 3 pennies. If all 3 coins come up heads, or all 3 come up tails, Jose gets 2 points. If only 2 coins come up heads, or only 2 coins come up tails, Xavier gets 1 point. The first player to score 20 points is the winner. Does one player have a better chance of winning than the other? Is this a fair game? Why or why not?

NAME _____

137

Practice Problem

Winona is helping at her aunt's flower shop. She is making bunches of 3 orchids, bunches of 6 tulips, and bunches of 9 daffodils. If she has 99 flowers in all, how many bunches of each kind of flower did she make?

NAME _____

138

Practice Problem

Samantha is making blue, green, and red necklaces. She makes some necklaces that have 5 blue stones, some that have 7 green stones, and some that have 10 red stones. If she has 104 stones, how many necklaces can she make, and how many of each kind?

- Melissa's bag had the same number as the mean.
- Abby's bag had 1 less than the mode.
- Kirk's bag had 5.5 more than the median.
- Lee's bag had 3 less than the mean.



Practice Problem

Six friends—Tasha, Hunter, Ira, Nydia, Jay, and Mandy—sold tickets for Games Galore Day. The circle graph shows their sales. Use the graph and clues to match a name to each section, and then find out how many tickets each student sold.

- Ira sold more than 2 of the students and fewer than 3 of the students.
- Hunter sold a dozen more tickets than Tasha, and a dozen fewer tickets than Ira.
- Nydia did not sell the same amount as anyone else.

How many tickets did each student sell?

