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Manatee Math Superstars

Grade 6

Spring Semester



Name: _____

- 1.) One bell rings every 5 minutes, and another bell rings every 6 minutes. If they ring together, in how many minutes will they ring together next?



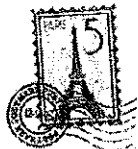
- 2.) Curtis and Kyle are both riding their bikes west on Highway 11. Curtis covers 1 mile in 6 minutes while Kyle covers 3 miles in 12 minutes. At 2 P.M. Curtis is 4 miles ahead of Kyle. At what time will Kyle catch up to Curtis?



- 3.) Together Bill and Fred, working at the same rate, rake a yard in an hour and a half. If three of their friends had joined them at the start and also worked at that rate, how long, in minutes, would it have taken the five of them to rake the yard?



- 4.) I have four 3¢ stamps and three 5¢ stamps. Using one or more of these stamps, how many different amounts of postage can I make?



- 5.) On a quiz of 10 questions, every correct answer earns 5 points. Two points are deducted for every wrong answer. Questions left blank earn zero points. Tim got c questions correct, w questions wrong, and left b questions blank. He earned a score of 31 points on the quiz. What is the ordered triple (c, w, b) ?



- 6.) Tom and Joanie's job is to take their dog for 4 walks every day. Each is to take the dog for 2 walks. For the first week, which starts on a Monday, Joanie cannot take the dog for any walks on Monday or Tuesday. On Wednesday, she can only take the dog for one walk. She tells Tom that if he takes her turns, starting Thursday she will take the dog for three walks to his one until they have evened out the number of walks. Counting Thursday, how many days will this take?



- 7.) Linda had 2 red cards in her hand. What is the fewest number of black cards she would have to mix with these red cards so that no matter how she arranged the cards there would be at least 3 black cards in a row?



Name: _____

- 1.) White binders cost \$5 each and purple binders cost \$7 each. Chase spent \$31 for his white and purple binders. Carter spent \$43 for his white and purple binders. How many purple binders did the boys buy?



- 2.) Richie has 6 large marbles and 14 small marbles. One large marble weighs the same as 3 small marbles. The weight of all 20 marbles is 80 ounces. What is the weight, in ounces, of 2 large marbles and 4 small marbles?



- 3.) A parking machine at the airport takes only quarters. Each quarter gives a person 20 minutes of parking, then a red flag appears. Beverly parks her car at one of these meters with the red flag showing at 12:05 P.M. when she picks her sister up at the airport. Her sister is arriving at 1:45 P.M. and Beverly knows it will take 25 minutes to pick up the luggage and get back to the car. What is the least number of quarters Beverly can put in the meter at 12:05 P.M. so that, by the time she and her sister get back to the car, no red flag has appeared?



- 4.) Hector has 2 pennies, 2 nickels, and 3 dimes. Wes has twice as many pennies, 5 times as many nickels, and 3 times as many dimes as Hector. How much, in cents, does Wes have to give Hector so they have the same amount of money?

- 5.) How tall, in feet, is a tree that is 10 feet shorter than a pole that is three times as tall as the tree?



- 6.) Mike counted all the ears, eyes, paws, and tails on all the tigers in the zoo. (All of the tigers have two ears, two eyes, four paws, and one tail.) The total he got is the same as the number of all the lions' paws in the zoo. (All lions have 4 paws.) The total number of lions and tigers in the zoo is between 20 and 30. How many tigers are in the zoo?



- 7.) The Barton family has 3 children. Amy's age plus Betty's age add to 29 years. Amy's age plus Carl's age add to 27 years. Betty's age plus Carl's age add to 22 years. What is the difference, in years, between the oldest and youngest child's age?

- 8.) Henry has 3 coins and Roman has 2 coins. They both have the same amount of money. The coins can only be nickels, dimes, or quarters. How many different combinations of kinds of coins can they have?

Name: _____

- 1.) Two cans of ABC dog food are selling for 99¢. One can by itself costs 50¢. Jane has a coupon that says, "If you buy 7 cans of ABC dog food, you get one can free." DEF dog food is selling 2 cans for 89¢. Jane needs to buy 8 cans of dog food. How much, in cents, will she save if she buys ABC dog food with the coupon instead of 8 cans of DEF dog food?



- 2.) Katie put four small blocks and two large blocks on a scale. The six blocks weigh 26 pounds all together. The small blocks each weigh the same amount and the large blocks each weigh the same amount. Two small blocks together weigh 1 pound less than one large block. How much, in pounds, does one small block weigh?



- 3.) The Hanley's kitchen cabinet has 3 shelves. The number of dishes on the second shelf equals the sum of the number of dishes on the top and bottom shelves. Mr. Hanley takes 8 dishes from the top shelf out of the cabinet and puts them on the table. He also takes 4 dishes from the bottom shelf and puts them on the second shelf and takes 6 dishes from the second shelf and puts them on the top shelf. How many more dishes are now on the second shelf than on the top and bottom shelves combined?

- 4.) Twelve people purchased supplies for a ten-day camping trip with the understanding that each of the twelve will get equal daily shares. They are then joined by three more people, but make no further purchases of supplies. How long, in days, will the supplies last if the original daily share for each person is not changed?



- 5.) There are 25 students (boys and girls) in Mrs. Hatch's class. The first girl talked to 10 boys in the class. The second girl talked to 11 boys in the class, the third girl talked to 12 boys in the class, and so on, until the last girl talked to all the boys in the class. How many boys are in the class?

- 6.) One year ago, the number of years in Jane's age was a perfect square, and one year from now, her age will be a perfect cube. How many years old is Jane?

- 7.) Dwayne and Juwan both have money in their pockets. If Dwayne gives Juwan 15¢, then they both would have the same amount of money. However, if Juwan gave Dwayne 15¢, then Dwayne would have 5 times as much money as Juwan would have. How much money do Dwayne and Juwan have all together?



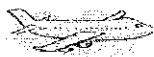
Name: _____

1.) A local fruit and vegetable stand sells everything for \$1.50 a pound, Jane selects corn, apples, and tomatoes for a total cost of \$15. If she had not selected corn the total would have been \$13.50 for the apples and tomatoes. If she selected the corn and tomatoes but only half as many apples, the total would have been \$11.25. How many pounds of tomatoes did Jane buy?



2.) Christopher wants to tile a rectangular floor with congruent squares tiles. Blue tiles will form the border, and white tiles will cover the interior. The number of blue tiles will equal the number of white tiles. What is the maximum area, in square units, that can be tiled?

3.) Assume Chicago and San Francisco are 2,100 miles apart. A plane leaves Chicago for San Francisco and averages 300 miles per hour. A half-hour later a plane leaves San Francisco for Chicago. The 2 planes pass each other half way between the two cities. What is the average speed, in miles per hour, of the plane leaving San Francisco?



4.) Terri has a collection of bicycles and tricycles. She has 34 pedals and 43 wheels. How many bicycles does she have?



5.) Gina's garden is in the shape of a 16 ft. x 20 ft. rectangle. Gina plants peppers in one-half of her garden. Then she plants tomatoes in one-fourth of the remainder. She then plants zucchini in one-half of what is left. Broccoli is planted in the last area. How many square feet of her garden contain broccoli?

6.) If $a * b = (a + b) \div (b - a)$, what is the numerical value of $a * b$ when b is 3 times as much as a ?

7.) Mike started out the day with some money in his wallet. He spent $\frac{1}{6}$ of the money on a present for his brother. He spent $\frac{1}{5}$ of the remaining money on a present for his sister. He then spent $\frac{1}{4}$ of the remaining money on rawhide for his dog. With the remaining \$24 he bought 2 CD's for himself. How much money, in dollars, did Mike have in his wallet at the start of the day?

8.) Team A's water jug is $\frac{1}{2}$ full of water.

Team B's water jug is empty, but will hold 16 pints. When the contents of Team A's water jug is poured into Team B's water jug, Team B's water jug

is $\frac{3}{4}$ full of water. How many

pints does Team A's water jug hold when full?



Name: _____

1.) Lou and William are both between 20 and 29 years old. If the digits in William's age are reversed the new number formed would be twice Lou's present age. What is the oldest Lou could be?

2.) Amanda has to walk a mile and a half to school every day. It takes her 6 minutes and 40 seconds to walk $\frac{1}{3}$ of a mile. At this rate, how long, in minutes, does it take Amanda to walk to school?

let's go to school

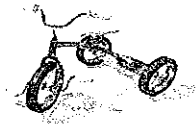


3.) The number of inches in the perimeter of a square is the same as the number of square inches in the area of that square. Four such squares are put together to form a larger square. How many more square inches are in the area of the new square than the number of inches in its perimeter?

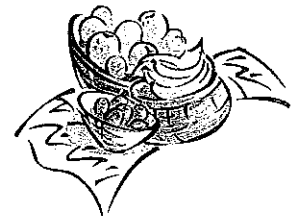


4.) Jack, Ken, and Phil are married to Jill, Babs, and Jane but not necessarily in that order. Four of the 6 people are playing a card game. Ken never plays the game. Babs' husband and Jack's wife are partners. Jane's husband and Jill are partners. No married couples are partners. Who is married to Ken?

5.) The Fun City Bicycle Shop has only bicycles and tricycles in its showroom. There are 7 times as many bicycles as there are tricycles. Loreen counted a total of 85 wheels in the showroom. How many bicycles are there in the showroom of the Fun City Bicycle Shop?



6.) Hector can buy a banana and a tomato for 56¢. He can buy a peach and a banana for 51¢, or he can buy a tomato and a peach for 69¢. How much, in cents, does a banana cost?

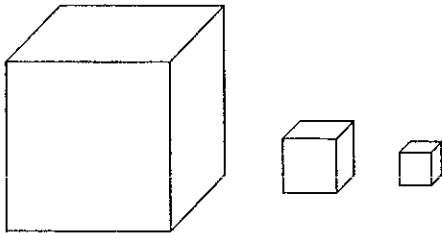


7.) Jordan spent \$990 for 40 DVDs. Five of these DVDs were "classics." He spent 4 times as much for each "classic" than he did for each of the other DVDs. How much of the \$990 did Jordan spend for the 5 "classics?"

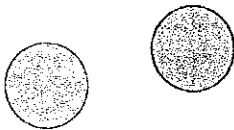


Name: _____

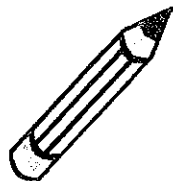
- 1.) Al and Don each have a one-foot cube. Al completely divides his into 4-inch cubes while Don completely divides his into 3-inch cubes. Al places his 4-inch cubes in a stack, one on top of each other. Don does the same thing with his 3-inch cubes. How much taller, in feet, is Don's stack than Al's stack?



- 2.) For every 7 blue chips in a pile there are 3 red chips. How many more blue chips than red chips are there in a pile of 320 red and blue chips?



- 3.) Pencils are sold only in full packages of 8, 12, or 15. The cost of a package of 8 pencils is 50¢. The cost of a package of 12 pencils is 70¢ and the price of a package of 15 pencils is 80¢. What is the most number of pencils Karen can buy for \$5.00?



- 4.) Kyle gave Shannon \$15 less than she already had. She now has \$51. How much money did Shannon have originally?

- 5.) The 5 tires of a car (4 + 1 spare) were each used equally on a car that was driven on trip a 60,000 mile trip. For how many miles was each tire used on that trip?



- 6.) If you multiply 2 times \$2.00 you get \$4.00. If you add \$2.00 + 2.00 you get \$4.00. If you multiply 3 times \$1.50, you get \$4.50. If you add \$3.00 to \$1.50 you also get \$4.50. If you multiply 5 times \$1.25 you get \$6.25. If you add \$5.00 to \$1.25 you also get \$6.25. Six times what amount of money would give the same amount as \$6.00 added to that amount?



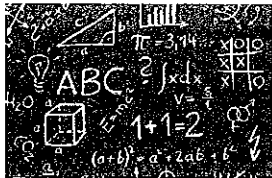
- 7.) Lorraine has only 5¢ stamps and 7¢ stamps. If she needs 30¢ worth of postage, she can use six 5¢ stamps. If she needs 31¢ worth of postage, she can use three 7¢ stamps and two 5¢ stamps. What is the largest amount of postage she cannot make using 5¢ and 7¢ stamps? (The answer is less than 35¢.)

- 8.) Each goose in the flock was sold for a dollar amount equal to the number of geese in the flock. Each goose costs less than \$10. The man who bought them paid for the whole flock with as many \$10 bills as possible and then some singles. There was an odd number of \$10 bills. What is the largest possible number of geese in the flock?



Name: _____

- 1.) Bob and Luiz are each doing 100 math problems. After 1 hour Bob has done $\frac{1}{2}$ the number of problems that Luiz still has to do which is also $\frac{1}{2}$ the number of problems. How many math problems has Bob completed?



- 2.) In a group of 45 people, exactly 15 are men and the rest are women. Exactly 24 of the 45 people have black hair. Thirty percent (30%) of the women do not have black hair. How many men do not have black hair?



- 3.) In a contest the prizes were to be \$100 for 1st place, \$50 for second place, and \$20 for third place. Instead, there was a 2-way tie for first place and one third place. The same total amount of money was awarded. Each first place prize was twice the value of the third place award. How much money did each first place prize winner receive?



- 4.) Jack's golf bag has 3 rows each with 4 slots in which to put his 12 golf clubs. His putter is number 0 and the other clubs are numbered from 1 to 11. He wants the numbers of the club in each row to have the same sum. He puts club numbers 5 and 11 in the first row, club numbers 4 and 10 in the second row, and club numbers 9 and 8 in the third row. What two other clubs should go in the third row?



- 5.) Only books that are two inches or three inches wide are placed on a small bookcase that has two 31-inch shelves. Jean completely fills the shelves leaving no empty spaces. She notices that there are as many 3-inch books on the first shelf as there are 2-inch books on the second shelf. How many 2-inch books are on the first shelf?



- 6.) A bag of a dozen grapefruit was selling for \$6.60. The produce manager added some grapefruit to the bag, but did not change the \$6.60 price. The price of a dozen grapefruit was now \$4.40. How many grapefruit were added to the bag?



- 7.) The Taylor family has 3 girls. Linda's age plus Marge's age add to 22 years. Linda's age plus Nancy's age add to 20 years. Marge's age plus Nancy's age add to 16 years. How old is Nancy?

Name: _____

1.) Eight students play a game where each student says the sum of all the numbers said by the previous students. If the first student says 4, what number does the 6th student say?

2.) A container that is $\frac{2}{3}$ full of coal weighs 925 pounds. When the container is $\frac{5}{12}$ full of coal, it weighs 625 pounds. How many pounds does the container weigh?

3.) Mario's average on his first 5 spelling tests was 78. His average on his next two spelling tests was 99. What was his average on all 7 spelling tests?



4.) Four friends are on swings side by side. They start off together, but go at different speeds. One crosses the beginning point 20 times a minute, another 12 times a minute, the third 4 times a minute, and the fourth 8 times a minute. Assuming they keep swinging at these constant rates, how many times will they all be momentarily lined up at the starting point each minute?



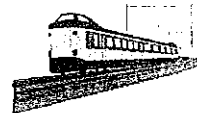
5.) There are 14 children on a Little League baseball team. Only 9 can play at a time. The baseball season has 42 games. The coach decided that each of the 14 children would play in the same number of complete games. In how many complete games will Howard, one of the 14 children on the team, play?



6.) Starting at the same time and place, Greg and Gary begin a bicycle race. Greg travels at a constant speed of 16 miles an hour. Gary travels at a constant speed of 12 miles an hour. Greg finishes the race 2 hours ahead of Gary. How many miles did Greg travel in the race?



7.) Mr. Saunders fell asleep on a train halfway to his destination. He slept until he had half as far to go as he had traveled when he was asleep. What fractional part of the whole trip did Mr. Saunders spend sleeping?



8.) One piece of candy from a machine costs 20¢. The machine takes only nickels and dimes. To the machine, a nickel followed by a dime is different than a dime followed by a nickel. How many different ways can you pay for the 20¢ piece of candy?

Name: _____

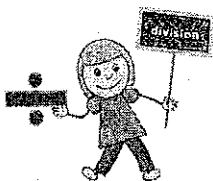
- 1.) A prime number is selected from each of the sets of numbers below. What is the largest (in value) possible product that can be made?

$$A = \{2, 3, 4, 6, 7\}$$

$$B = \{1, 3, 6, 9\}$$

$$C = \{2, 4, 9, 14\}$$

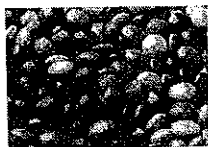
- 2.) How many different whole numbers leave a remainder of 1 when divided into 61?



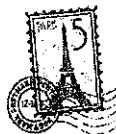
- 3.) A dozen cookies and a loaf of bread cost \$6.70. Half a dozen cookies and 2 loaves of bread cost \$6.05. How much does one loaf of bread cost?



- 4.) There are 100 M & M's in a candy dish. Al took 24 M&M's, Bob took 26 M&M's, and Charlie took 28 M&M's. One of the three boys then took half as many M&M's out of the dish as he took the first time, leaving 9 M&M's in the dish. Which one of the three boys took a second helping of M&M's?



- 5.) Danielle has some 5¢ stamps and some 8¢ stamps. The total value of all her stamps is 91¢. What is the difference between the least number of stamps she could have and the most number of stamps she could have?



- 6.) If each student in Mr. Sinclair's class were to receive 4 books, there would be 24 books left over. If each student in his class were to receive 5 books, there would be 2 books left over. How many students are there in Mr. Sinclair's class?



- 7.) Two containers each contain the same amount of water. When 11 gallons from the first container are poured into the second container, then the second container has twice as much as the first container. How many gallons of water does the second container have now?

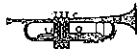


- 8.) Harpo, Chico, and Groucho each have a different number of flags. Each has more than 7 flags. Together they have 28 flags. Groucho has the most number of flags and Chico has the least number of flags. How many flags does Harpo have?



Name: _____

- 1.) Peter, Tommy, and Vince each play a different instrument. One plays a piano, one a trumpet, and one a violin, but not necessarily in that order. The violin player is playing for the first time for the band, and is sitting in the rear. Vince, who along with Peter had played with the band last year, is sitting just in front of the piano player. Who plays the trumpet?



- 2.) Doug was $\frac{2}{3}$ of the way home when his bike had a flat tire. He walked the rest of the way and it took him twice as long walking as riding. How many times faster did he ride his bike than he walked?



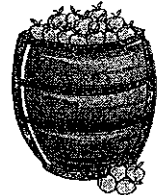
- 3.) On January 9, 2007, Ray first put some money into his bank account. On the first day of each month after that he put \$12 into his bank account. On his birthday in May he put in an additional \$75. By December 9, 2007 Ray had \$300 in his bank account. How much money did Ray first put into his bank account back in January?



- 4.) Mr. Monroe spent \$830 for two suits. One suit was \$70 more than the other suit. How much did Mr. Monroe spend on the less expensive suit?

- 5.) In order to retire from the Apex Company with a full pension, Mr. Elliot must have "combined years" totaling 85. "Combined years" means his age plus the number of years he has worked for the company. Mr. Elliot started working for the Apex Company when he was 23 years old. He is now 45 years old. In how many years will Mr. Elliot first be able to retire from the company with a full pension?

- 6.) A full crate of apples weighed 230 pounds. After $\frac{4}{5}$ of the apples were sold, the remaining apples and crate weighed 90 pounds. What is the weight, in pounds, of the empty crate?



- 7.) There are 200 sixth grade students at North Middle School. Thirty percent of the 200 students are boys. Eighty percent of the 6th grade students take the bus to school. Ten boys do not take the bus to school. How many girls take the bus to school?



- 8.) The numbers on the houses on the north side of Oak Street are consecutive odd numbers starting with 1 (1, 3, 5, 7, etc.). The plastic digits used to number the houses cost 4¢ each. (It costs 4¢ to label house number 9 and 8¢ to label house number 11.) If it costs \$5.00 to number all the houses on the north side of Oak Street, what is the house number of the last house?

