C5/1 A chicken is placed in the oven at 09:15. If the chicken takes 1 hour 50 minutes to roast, when should it be taken out of the oven?

C5/2 Mother needs 1½ apples to make one apple muffin. How many apple muffins can she make with 15 apples?

C5/3 Rahul has 24 marbles more than Robert and Tomasi has 24 less than Robert. If Robert has 71 marbles, how many do they have all together?

C5/4 A farmer makes a fence around his square garden. When it is completed there are 10 poles on each side. How many poles did he use altogether?

C5/5 A computer has a secret rule. For every input number that you type in, it produces an output

number using that same rule. Here are some examples of the computer’s answers. If the

input number was 6, what would the output number be?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Input | 0 | 1 | 2 | 3 |
| Output | 2 | 7 | 12 | 17 |

C5/6 40 pupils were asked whether they liked chocolate. 4 pupils had no opinion. The rest were divided into 2 equal groups of which one group liked chocolate and the other group did not like chocolate. How many pupils liked chocolate?

C5/7 At Christine’s home a bell rings every half hour and at James’s home a bell rings every 35 minutes. If the two bells ring together at 8.00 am, when will they ring together again?

C5/8 How many 350 milliliter orange juice bottles can be filled from a container holding 35 litres of orange juice?

C5/9 A student has to compile 250 questions for a math competition. She asked each student on the math team to write 1 question. If there are 125 students on the team, not including her, how many extra questions does she have to produce?

C5/10 Mark writes three math questions on Monday, five math questions on Tuesday, seven

Math questions on Wednesday, and so on. How many questions will he have written,

in total, at the end of Sunday?

C5/11  A computer costs $899, and Darcy has set aside $544 so far to purchase this

computer How many additional weeks will it take to have enough money for the

computer if she saves $15 per week?

C5/12 In this number wall you add the two numbers next to each other and write the sum in the brick directly above the two numbers. What number will be written in X?



C5/13 A man bought 5 boxes of apples at the market. Each box contains 63 apples. If he packs 9 apples in a plastic bag, how many bags will he fill?

C5/14 Mary has to be at school by 08:00. It takes her 15 minutes to get dressed, 20 minutes to eat and 35 minutes to walk to school. What is the latest that she should get up?

C5/15 Peter, Paul and David worked in the garden. Peter worked for 3 hours, Paul worked 2 hours and David worked 1 hour. They are paid $48 for their work altogether. How much should Peter get?

C5/16 How many whole numbers from 1 to 100 do not have a 9 in them?

C5/17 In 10 year's time the combined age of 3 sisters will be 100. What is their combined age now?

C5/18 When the items in a box are put in groups of 3 or 5 or 6, there is always one item left over. How many items are in the box if there are fewer than 50?

C5/19 In a string of beads there are 2 red beads for every 5 green beads and 3 purple beads for every 10 green beads. How many purple beads are there in a string with 12 red beads?

C5/20 A box with 30 chocolates weighs 1.1 kg. If 12 chocolates are taken out, it weighs 680 g.

How much does the empty box weigh in grams?

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C6/1 The English alphabet contains 2 more than twice as many letters as the Hawaiian

alphabet. How many letters are in the Hawaiian alphabet?

C6/2 I number the pages of a book from 1 to 55. How many times do I use the digit 2?

C6/3 What is the average of 0.4, 0.04, 0.004 and 0.0004?

C6/4 Jackie has four cards, numbered 3.2.4 and 1. How many different two-digit numbers

can she make with these cards?

C6/5 Susie has 25 less marbles than Sam. Together they have 105 marbles. How many

marbles does Sam have?

C6/6 From a batch of 3 000 light bulbs a sample of 100 were randomly selected and

tested. If five of the light bulbs in the sample were found to be defective, about how many defective light bulbs would be expected in the entire batch?

C6/7 The perimeter of a rectangle is 40 cm. Its width is 8 cm. What is the area of this

rectangle?

C6/8 Rajesh does testing on some mice he catches. Mouse A eats a bag of Bongo in 6

hours and Mouse B eats a bag of Bongo in 3 hours. How long, in hours, will it take for mice A and B to eat a bag of Bongo together?

C6/9 The sum of seven consecutive numbers is 63. What is the largest of the seven numbers?

C6/10 A national competition has a registration fee of $500 per team. Each member’s plane ticket costs $250 and the hotel rooms cost $60 per person. If 4 people attend the tournament and share the total fees equally, how much does each person pay in dollars?

C6/11 Milika likes solving math problems as a hobby. It takes her 73 days to solve 6 of

them. How many problems can she solve in three years if none of them are leap years?

C6/12 What number is exactly halfway between 64 and 96?

C6/13 Sanil has to collect and dry wildflowers for his biology project. He finds 8 each

time he goes out, but the first 3 always rot before he can get home to dry them. How many times does he have to go out to get the minimum requirement of 25?

C6/14 A magic substance is placed in a container, where it doubles in quantity every minute. If the container is full after one hour, after how many minutes was it half- full?

C6/15 Due to melting, an ice sculpture loses one-half of its weight every hour. After 8

hours, it weighs 5/16 of a kg. How much did it weigh in the beginning?

C6/16 Rohan began reading a 200-page book at 1:15 pm, and he read 40 pages by 2:00 pm. If he continues to read at the same rate, how many minutes will it take him to read the remainder of the book?

C6/17 A snail starts at a corner of a regular pentagon and crawls around it (a figure

with 5 sides of equal length). If each side of the pentagon is 5 cm long, and the snail

has crawled of the pentagon , how far has he still to go to come back at the

point he started?

C6/18 Rukshana is trying to guess DJ’s favourite number. Rukshana is told that it is a positive integer less than 100, that two more than the value is a multiple of 6 and that the sum of its digits is a multiple of 7 and that it is a multiple of 8. Find DJ’s favorite number.

C6/19 Wise’s Bike Shop has a total of 32 bicycles and tricycles for rent. He checks all

74 wheels at the beginning of the season. How many tricycles are there in the shop?

C6/20 When a choir is arranged in rows of five people each, the last row is one person short. When a choir is arranged in rows of six people each, the last row is still short one person. What is the least possible number of people in the choir?

F1/1 The mass of the peel of a banana is about of the total mass of the banana. If you buy 3 kg of bananas at 90c per kilogram, about how much are you paying for the banana peel? Give your answer to the nearest whole number.

F1/2 Jane eats twice as many sweets as Sue in half the time. Sue eats 12 sweets in 10 minutes. How

many sweets does Jane eat in the same time?

F1/3 In the old days there were elevator operators to transport passengers. Don always

started his day in the basement. He went up 20 floors to take his boss some coffee. Then he went down 8 floors to take a parcel to his friend. He went up 7 floors to check things out. This was the halfway point in the building. How many floors are there in this building?

F1/4 How many two-digit numbers less than 100 are there with both digits even?

F1/5 Every year a farmer cuts down all the trees on his farm. He finds that 60% of the trees die,

but that the rest grows again from the stumps that remain. What percentage of the original

number of trees are still alive after three years?

F1/6 A truck is half full of sand. Another 2 cubic meters of sand is put into the truck

making the truck two thirds full. How many cubic meters of sand can the truck

hold?

F1/7 A family of 5 sisters, all of different ages, shares $100 in such a way that each sister receives $2 more than her next younger sister. How much does the oldest receive?

F1/8 Four cubes of equal sizes are given. One is colored red, one blue, one green and one yellow. What is the number of different ways they can be stacked one upon the other?



F1/9 Susan spent of her money while Josie spent ½ of her money. Both of them had

the same amount of money left. If Josie had $35 left, how much did Susan have

at first?

F1/10 There are 69 kids in a room where of the kids are boys. Everyone is required to eat a cupcake. 40 kids said they prefer chocolate frosting. 8 girls want vanilla frosting. How many boys want chocolate frosting?

F1/11 Steven said that 12% of the mangoes were not sold. Rahul said that is the same as 360

mangoes. How many mangoes were sold?

F1/12 Robert bunjee - jumps from a 80m bridge towards a river below. He falls 40m before the bunjee cord starts to stretch. This cord can stretch 95% of its length. How far above the river does Robert bounce back?

F1/13 Jemesa’s bucket weighs 21 kg when full of water. After he pours out half the water from the bucket, it weighs 12 kg. What is the weight of the empty bucket?

F1/14 The sum of three consecutive numbers is 54. What is the product of the three numbers?

F1/15 What is the difference between the sum of the even numbers and the sum of the odd

numbers from 1 to 100 inclusive?

F1/16 The math team at Saint Middle School earned $273.00 by selling a combined total of 440 brownies and cookies during their math meet. If each brownie sold for $0.75, and each cookie sold for $0.50, how many brownies did they sell?

F1/17 Roshan starts a job at 2:00 pm and by 3:00 pm he has finished 3/4 of the job. At that rate, what time will he finish the job?

F1/18 After one-tenth of a roll of material was cut off, 99 m of material remains on the roll.

How long was the original roll of material?

F1/19 For every 5 m a cat runs, a dog runs 7 m. If the cat is 36 m ahead of the dog, how far will

the cat run before the dog catches up with it?

F1/20 A reservoir has vertical sides measuring 20 meters and a rectangular base that measures 30 meters by 40 meters. At the beginning of September the reservoir was filled to capacity. At the end of September the water depth was 4 meters. How much water was used in September?

F2/1 Sean’s favorite icy drink is a mixture of one part cream soda with four parts cola.

What is the ratio of cream soda to the **whole** icy drink?

F2/2 Tim, Tony and Rahul are arranged in a line. If Tim **cannot** be in the middle, in how many ways can the kids be arranged?

F2/3 What is the sum of all the possible factors of 24?

F2/4 One recipe for Tex-Mex four layer dip calls for one layer each of refried beans, sour cream, guacamole and tomatoes. If the refried beans must be the bottom layer, in how many different orders can the dip be constructed?

F2/5 Red candies costs 5 cents each. Blue candies cost 7 cents each. Green candies

cost 14 cents each. Alice spent 55 cents buying some candy of each color. How

many red candies did Alice buy?

F2/6 This year Shivam is 5 years older than his sister. Last year he was twice as old as his sister was. What will be Shivam’s age next year if both are below 20?

F2/7 Ashneel and Betty picked 60 mangoes. If Ashneel picked three mangoes for every two mangoes that Betty picked, how many mangoes did Betty pick?

F2/8 Steve starts a job at 2:00 pm and by 3:00 pm he has finished 3/4 of the job. At that rate, what time will he finish the job?

F2/9 What is (−1)1 + (−1)2 + (−1)3 + · · · + (−1)999 equal to

F2/10 A truck is half full of sand. Another 2 cubic meters of sand is put into the truck

making the truck two thirds full. How many cubic meters of sand can the truck hold?

F2/11 A store is charged a monthly rent of $1,350 or 6% of sales, whichever is greater. What is the rent if the store’s monthly sales total $17,500?

F2/12 How many two-digit numbers less than 100 are there with both digits even?

F2/13How many triangles are there in the following diagram?



F2/14 A store owner buys 12 oranges for $2.00 and plans to sell them at 3 for $1.00. Find the number of oranges that must be sold to have a profit of $10.00.

F2/15 To attend Zan’s graduation from Williams College, Rick drove  of the 1260-

mile drive on Monday and 60% of the remaining distance on Tuesday. To reach Williams College on Wednesday, how many miles must Rick drive?

F2/16 From the set , select three different numbers for A, B, and

C. What is the greatest possible value of  ?

F2/17 A circle with radius 16 cm is inscribed in a square.

Rounded to the nearest square centimeter what is the area of the shaded region?

F2/18 In a contest to guess the number of balloons in a bunch, Susan guessed 25,

Baravi guessed 31, Nita guessed 29, Rimal guessed 23 and Elizabeth

guessed 27. Two guesses were wrong by 2, and two guesses were wrong

by 4. The other guess was correct. What was the number of balloons in the bunch?

F2/19 You are preparing skewers of meatballs, where each skewer has either 4 or 6 meatballs on it. Altogether you use 32 skewers and 150 meatballs. How many skewers have only 4 meatballs on them?

F2/20 A baby chick walks forward 3 steps, then backward 1 step. This pattern continues until the chick immediately stops at a traffic light 200 forward – steps from its starting position. How many backward – steps did the chick take before finally reaching the traffic light?

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F3/1 A store sells pies. Each pie costs the same prize and two pies cost $8.00. How much do three pies cost?

F3/2 The chess club has six members. For the next meet, the coach can take a team with only five members. In how many ways can the coach choose the team for the next meet?

F3/3 If x = –12, evaluate: .

F3/4 Mrs. Nguyen sold her old car to a collector for 150% more than its original price of $6400. What percent of the selling price is the original price?

F3/5 A prime number plus a perfect square equals 99. What is the prime number?

F3/6 The perimeter of a particular rectangle is eight times its width. If the area of the

rectangle is 243 cm2, what is the width of the rectangle, in centimeters?

F3/7 A set of six numbers has an average of 47. If a seventh number is included with the

original six numbers, then the average is 52. What is the value of the seventh number?

F3/8 The Davis’ house had 1200 square feet of living space before they added on a 20 foot

by 15 foot rectangular room. By what percent had their amount of living space

increased?

F3/9 By putting $1.80 worth of gas in his Ford Ranger, the gas tank needle moves from full to full. What additional amount must Ben pay to finish filling the gas in the tank? (Assume that the needle is always accurate.)

F3/10 Lalita thinks of a secret number. In this sequence: she subtracts 5, multiplies by 5, adds 5, and then divides by 5 to get 2002 as her answer. Dave thinks of a secret

number. In this sequence: he adds 5, multiplies by 5, subtracts 5, and then divides by 5 to get 2002 as his answer. What is the sum of their two secret numbers?

F3/11 Beth buys $9 worth of oranges that sell for $0.75 each on Monday. On Thursday she finds that the oranges are on sale at $0.25 each and buys another $9 worth. What is

the average cost per orange (to the nearest whole number) of the total number she bought?

F3/12 In a class, 14 students study Hindi and 8 students study I-Taukei. Among them, 3

students study both languages. If every student studies either Hindi or I-Taukei, what is the total number of students in this class?

F3/13 30 fence posts are used to build a fence around a rectangular plot. With one pole at each

corner, the distance between adjacent poles on the fence is 4 m. What is the maximum

possible area, in square meters, of the rectangle?

F3/14 There were 5 parrots in a pet store. The average price of the 5 parrots was $600.

Someone comes in and buys one of the parrots. The average price for the remaining 4 birds was $500. What was the price of the parrot that was sold?

F3/15 On each day that Adam does his homework his mother gives him $4, and on days he doesn’t she takes $1 away from him. After 30 days Adam notices that he has the

same amount of money as when he started even though he has spent nothing and had no other source of income. On how many of the 30 days did he do his homework?

F3/16 Robert was reading a book and was counting the number of 1s that appeared in the

page numbers. He counted that there were 24 ones. If the book starts on page 1,

how many pages does the book contain?

F3/17 Three kids share a basket of apples. Lisa gets half of the apples and two more, then

Ann gets half of the remaining apples and two more, and finally Mary gets half of the

remaining apples and two more. One apple is left over in the basket for you. How

many apples were there originally in the basket?

F3/18 By exchanging the positions of two digits in the number **965,142**, the new number is 19,980 **smaller** than the original number. What is the sum of the two digits exchanged?

F3/19 A 2 cm cube is stacked (and glued) on top of a 3 cm cube. In square centimeters,

what is the surface area of this stack (including the bottom face)?

F3/20 Saul plays a video game in which he scores 4 for a hit and 6 for a miss. After 20

rounds his score is 30. What is the number of times he has missed?

F4/1 From a bus terminal four different buses depart at the same time at 6 am, the time

the terminal opens. The different buses return to the station every 5, 8, 12, and 18

minutes, respectively. Before 10 pm, how many times are all the buses at the

terminal at the same time? (do not count when they are all initially there at 6 am).

F4/2 Andrew was asked by his teacher to subtract 3 from a certain number and then divide the result by 9. Instead, he subtracted 9 and then divided the results by 3, giving an answer of 43. What would his answer have been if he had done what his teacher asked properly?

F4/3 There are six more girls than boys in Mr Naidu’s class of 24 pupils. What is the

ratio (in its simplest whole number form) of girls to boys in this class?

F4/4 A clock chimes on the hour once at 1 o'clock, twice at 2 o'clock, three times at 3 o'clock, and so on, up to a maximum of twelve times at 12 o'clock. How many total times does this clock chime between 10:15 am one day and 6:50am the next day?

F4/5 There were 5 parrots in a pet store. The average price of the 5 parrots was $600. Someone comes in and buys one of the parrots. The average price for the remaining 4 birds was $500. What was the price of the parrot that was sold?

F4/6 Each day, Dolly ate 20% of the jellybeans that were in his jar at the beginning of that day. At the end of the second day, 32 remained. How many jellybeans were in the jar originally?

F4/7 A sewing machine stitches 0.6 kilometres of cloth in one hour. What is the rate of

stitching of the sewing machine in metres per minute?

F4/8 Rupeni, Shayal and Jennifer shared a sum of money in the ratio of 4 : 3 : 1

respectively. Rupeni received $70 more than Shayal. What was the total amount

that was shared initially?

F4/9 A package of 20 plastic forks costs $0.39. A package of 24 plastic knives costs

$0.45 .If you wish to purchase the same number of forks and knives, what is the

least amount that you could spend?

F4/10 If + = then what is the value of x?

F4/11 The “sum of three positive integers is 9. What is the least possible product of their

reciprocals? Express your answer as the simplest fraction.

F4/12 A circle with radius 16 cm is inscribed in a square. Rounded to the nearest square centimeter, find the area of the shaded region?

F4/13 The product of two numbers is 504 and each of the numbers is divisible by 6. Neither of the two numbers is 6. What is the larger of the two numbers?

F4/14 What is the value of 499 – 497 + 495 – 493 +…….+ 3 - 1?

F4/15 Seema has a basket containing 4 types of fruit. She has 3 times as many bananas

as apples. There are 4 more pears than bananas, and 2 less lemons than apples.

What is the least number of pieces of fruit that could be in Seema’s basket?

F4/16 Two ants start at point A and walk at the same pace. One ant walks around a 3 cm by 3 cm square whilst the other walks around a 6 cm by 3 cm rectangle. What is the minimum distance, in centimeters, any one must cover before they meet again?



F4/17 On a farm with *m* orange trees, every tree produced *p* oranges. Some oranges

were lost due to flooding and *mp* oranges remained. What is the percentage of

oranges lost?

F4/18 ABCD is a square and EAB and CFB are equilateral triangles. What is the size of

angle BEF?



F4/19 A pet shop has 1500 pets that are either: cats, dogs or birds. Of this total, 55% are

cats and 20% are dogs. A group of cat lovers bought cats only, until just 40% of the remaining pets were cats. How many cats were bought by the cat lovers?

F4/20 A rectangle can be made longer and narrower without changing its area. For

example, if the lengths of one pair of its sides are increased by 60%, then by what percentage should the lengths of its other pair of sides must be decreased?

F5/1 The prime numbers *p* and *q* are the smallest primes that differ by 6. What is the sum of *p* and *q*?

F5/2 Three positive integers are in the ratio of 1:3:4 and have a sum of 72.

What is the smallest of these integers?

F5/3 For a dress, Katie saved 40% off of the marked price of $120. For a pair of shoes, she saved 20% off of the marked price of $80. Combined, what percent did Katie save on these two purchases?

F5/4 Bob and June have jobs after school. June earns 25% more than Bob does. What

percent less than June does Bob earn?

F5/5 Eighty people stand in a queue to collect sandwiches. There are enough

sandwiches for each person to have three sandwiches. Instead, every person at the front of the queue take five sandwiches until there are none left. What is the number of people who do not get any sandwiches?

F5/6 A rabbit is inside the end of a tunnel 30 bunny-hops long. He hops once every minute, always taking first three hops forward and then two hop backwards from then mouth of the tunnel. How many minutes does it take before he reaches the mouth of the tunnel?

F5/7 A boat has sprung a leak. Water is coming in at a uniform rate and some has

already accumulated when the leak is detected. At this point, 12 people of equal

skill can pump the boat dry in 3 hours, while 5 of these people require 10 hours. How many of these people are needed to pump it dry in 2 hours?

F5/8 “ How many children have you, and how old are they?” asked the guest. “I have

three boys”, said Mr. Thomas. “The product of their ages is 72 and the sum of their ages is the street number of my house”. The guest went to look at the entrance of the house, came back and said to Mr. Thomas, “the problem is indeterminate”, “yes you are right,” replied Mr. Thomas. “Did I mention the two youngest are twins?”

How old are the three boys? Give your answer in years (starting from the smallest)

F5/9 A cyclist notices that her average speed when she has covered exactly half the total distance of her race is 30 km/h. What should her average speed (in km/h) over the second half of the race be if she wants to finish the race with an average speed of 40 km/h?

F5/10 A cube is such that the length of its longest diagonal in centimeters is the same as

its volume in cubic centimeters. What is the length in centimeters of each side of

the cube?

F5/11 Every day Cynthia’s father drives from home to pick her up at school. The way

from home to the school is a long, straight road and there is no other traffic, so June’s father can drive at the same speed all the time. He always leaves at exactly the right moment so that he will arrive at the school just as classes are ending. One day there was a robbery in the school and all of the students were sent home one hour early. Cynthia started walking home along the usual road. Her father met her along the way, turned around and drove her home. (Don’t worry about the time involved in stopping and turning around.) They arrived home 15 minutes earlier than usual. How long did Cynthia spend walking before she got picked up?

F5/12 A square is cut into three rectangles of equal area by two lines that are parallel to one of the sides of the square. If the perimeter of each of the three rectangles is 32 cm, then what is the area of the original square in cm2.

F5/13 A daughter writes down her own age directly after her mother’s, forming a four-

digit number. From this four-digit number she subtracts the difference between her mother’s age and her age to get 4202. What is the age of the daughter?

F5/14 A recipe calls for cups of sugar per serving. Sugar can be purchased in 5

cup packages. If a baker plans to make 12 servings, how many packages of sugar

does he need to purchase?

F5/15 In the figure shown, below, the radius of each circle is 3 cm. The centres of

the circles represent the vertices of a square. What is the area of the closed shaded region, to the nearest square centimetre?

F5/16 Jackson recently inherited a sizeable sum of money. He paid 30% in taxes and invested 20% of what remained into Power Enterprises. If Power Enterprises received $11,900 from Jackson, how much did Jackson pay in taxes?

F5/17 A rectangle can be made longer and narrower without changing its area. For

example, if the lengths of one pair of its sides are increased by 60%, then by what percentage should the lengths of its other pair of sides must be decreased?

F5/18 The average mark for 100 learners on a mathematics test is 39%. The average

mark for the learners who passed the test is 60%. The average mark for the learners who failed the test is 30%. What is the number of learners who passed?

F5/19 Twenty – four teachers are gathered in a room. Beginning at 11am, everyone shakes hands with everyone else. Each handshake takes 3 seconds with 3 seconds between handshakes. If 12 pairs of teachers are shaking hands simultaneously, at what time is the handshaking completed?

F5/20 Shalini’s score on a math test was recorded incorrectly by the teacher. Her real

score was exactly four times the score that the teacher recorded. When the teacher corrected her mistake, the average score of the class went up by 2 points. There are 24 students in Shalini’s class (including Shalini.). What was Shalini’s real score on the math test?

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F6/1 Find the value of

F6/2 Three cans of water fill two-thirds of a one-litre jug. How many cans are needed to fill 8 one-litre jugs?

F6/3 When 60 minutes elapse on a correct clock, 62 minutes register on clock *F* (fast)

and only 56 minutes register on clock *S* (slow). If later in the day clock *F* reads

8:00 and clock S reads 7:00, what was the correct time when the two clocks were

originally set?

F6/4 Brian is now twice as old as Sakiusa, and four years older than Jackson. In six

years’ time the sum of all their ages will be 69. What is Jackson’s age now?

F6/5 Being a nice sister and daughter, Sheila first gives half of her paycheque to her sister and then a fourth of what remains to her parents. If Sheila gave away a total of $200 to her sister and parents, how much was Sheila’s paycheque?

F6/6 The average age of 5 people in a room is 30 years. An 18-year-old person leaves the

room. What is the average age of the remaining people?

F6/7 You are given the following sequence:

3 , 4 , 7 , 11 , 18 , 29 , 47, ……..

Find the difference of the thirteenth term and the second term.

F6/8 100 cards are placed face down in a line. Marion turns every second one over, starting with the second one in line. Ron then turns every third card that is still face down. After this, how many cards remain face down?

F6/9 Nine identical black marbles are to put into three cups, one red, one green, and one blue, in such a way that each cup contains at least two marbles. How many ways can this be done?

F6/10 Friends Geeta and Sita ordered finger food in a restaurant, Geeta ordering chicken

wings and Sita ordering bite-size ribs. Each wing cost the same amount, and each rib

cost the same amount, but one wing was more expensive than one rib. Geeta received

20% more pieces that Sita did and Geeta paid 50% more in total than Sita did.

The price of one wing was what percentage higher than the price of one rib?

F6/11 A question paper consists of twenty questions. Section A (questions 1 to 5) are worth 3 marks each. Section B (questions 6 to 15) are worth 5 marks each and Section C (questions 16 to 20) are worth 7 marks each. Elizabeth scores 100% in section A and 90% in section B. What is the least number of questions she should answer correctly in section C to score more than 80% overall?

F6/12 How many natural numbers less than 400 are not divisible by 17 and 23?

F6/13 Given a collection of three numbers, the smallest is zero. If the mean of the three numbers is and the median is then what is the largest of these numbers?

F6/14 Mr. Caterpillar starts at one end of a wooden plank of length 1 meter and walks towards the other end at a speed of 50 centimetres an hour. Each hour after Mr. Caterpillar begins his journey, his opponent, Mr. Slug, extends the plank by  centimetres. How long does it take Mr. Caterpillar to reach the end of the plank?

F6/15 Thirty dollars is to be split among 8 people. Each person gets at least $1; at least one person gets more than $5; at least four other people get more than $1. If all 8 people

get an exact number of dollars, what is the largest amount (in dollars) that could be received by a person?

F6/16 In a certain school there are two Form six classes with the same number of learners in each. The ratio of girls to boys in one class is 1 : 2 and in the other class it is 3 : 2. What is the ratio (in simplest whole number) of girls to boys in the entire Form six class?

F6/17 The figure shows a regular pentagon *ABCDE*. What is the size of angle DFC?



F6/18 Two trains, A and B are 480 km part on a straight track. Train A travels towards Train B at 100 km/hr and Train B towards Train A at 60 km/h. A fly begins at Train A and starts flying towards Train B at 140 km/h. Whenever the fly reaches a train, it will turn around and start flying towards the other train at 140 km/h. When the two trains collide, how far will the fly have travelled?

F6/19 Four women, all wearing identical hats, go to a restaurant for lunch, and each leaves her hat on a hat stand. When they leave the restaurant, each woman picks up a hat at random. What is the probability (in simplest fraction) that **none** of the women picks up her own hat?

F6/20 A ball was floating in a lake when the lake froze over. The ball was later removed without breaking the ice, leaving an indentation in the ice 48 cm across and 6 cm deep. What is the radius of the ball in centimeters?

………………………………………………………………………………………………………

F7/1 What is the distance between and its reciprocal?

|  |  |  |  |
| --- | --- | --- | --- |
| |  | | --- | | F7/2 If your watch loses 5 minutes each hour and you set the time correctly at 07:00, what is the actual time when your watch shows later that morning at 09:45? | |  | |  | |
|  |
|  |

F7/3 Recently eleven days had some rain. A morning rain was always followed by a clear afternoon.

An afternoon rain was always preceded by a clear morning. In total nine mornings and twelve afternoons were clear. How many days had no rain at all?

F7/4 Each sheet of paper in a paperback novel has thickness of millimeter. Each sheet in the novel has a page on each of its sides. If the novel is 3.08 centimeters thick, excluding the thickness of the cover, calculate the number of pages in the novel?

F7/5 Levuka Town has 500 voters. Everyone votes on two issues. The first issue receives 375 votes in favor and the second receives 275 votes in favor. If 40 voters vote against both issues, then what is the number of voters in favor of both issues?

F7/6 In the following sequence of numbers, 4 is the first number, 7 is the second and so on: 4,7,12,19,28,…..

Calculate the value of the 25th number in the sequence.

F7/7 Thirty dollars is to be split among 8 people. Each person gets at least $1; at least one person gets more than $5; at least four other people get more than $1. If all 8 people

get an exact number of dollars, what is the largest amount (in dollars) that could be received by a person?

F7/8 Kelvin bought some oranges from the market and brought them to the picnic. Two friends each ate of the oranges he brought, four friends each ate of them, two friends each ate of them and three friends each ate one. After all the friends had eaten, there was only one orange left for Kelvin. How many oranges did Kelvin bring to the picnic?

F7/9 Eight girls must be divided into four teams of two players each. What is the number of different ways in which this can be done?

F7/10 Simplify the following algebraic expression:

F7/11 A long escalator goes from a subway track to the street and moves up at constant rate. One person requires 40 seconds to walk up while the escalator is moving and takes 40 steps in the process. Another person requires 50 seconds to walk up while the escalator is moving and takes 20 steps in the process. How many steps of the escalator are required to go from the subway to the street if the escalator is not moving?

F7/12 A three page manuscript contains three typing errors. Assume that the errors occurred at random, independently of one another. What is the probability (in simplest fraction) that they are all on the same page?

F7/13 Workers in an office have a coffee machine and make 1 cents profit on each cup sold. The profits were split at the end of the year and everyone got $2.50, with a total of $25 remaining after that. It was suggested that instead everyone should get $3, but that would have left three people with no money. How many cups of coffee were sold?

F7/14 Two jars contain an equal number of marbles. The marbles are either red or white. The ratio of red to white marbles is 7:1 in the first jar and 9:1 in the second jar. If there are 90 white marbles altogether, then what is the number of red marbles in the second jar?

F7/15 A ball was floating in a lake when the lake froze over. The ball was later removed without breaking the ice, leaving an indentation in the ice 48 cm across and 6 cm deep. What is the radius of the ball in centimeters?

F7/16 In how many ways can the faces of a cube be colored using six colors, if each face is to be a different color and two colorings are considered the same when one can be obtained from the other by rotating the cube?

F7/17 A bricklayer would take 9 hours to build a certain wall on his own and another bricklayer

would take 10 hours to build the same wall. If the two work together, they sometimes stop for a chat, so that they lay a total of 10 fewer bricks per hour. If it takes them 5 hours to build the wall together, then what is the number of bricks in the wall?

F7/18 How many pairs of parallel edges are there in the rectangular box shown?



F7/19 A restaurant can accommodate at most 400 people, which includes the guests and the waiters.

Each waiter can serve a maximum of 12 guests. What is the greatest number of guests that can be served?

F7/20 Your favorite pizza shop has set up a promotional booth at a side-walk sale. One of the items on display is a basket full of free pizza coupons. The host tells you that there would be exactly one coupon left, if the coupons were removed three at a time, or four at a time, or five at a time. Also, the basket contains the smallest number of coupons so that this can be done. To win the basket, what should your guess for the number of coupons be?

FIJI MATHEMATICS ASSOCIATION

**FINALS**

# RESULT SHEET CLASS 5: 2012

Name of School:……………………………………………..

Name of Marker:…………………………………………….

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Answers** | **+100** | **-100** | **Cumulative Score** |
| 1 | 11.05am or 5 past eleven in the morning |  |  |  |
| 2 | 10 |  |  |  |
| 3 | 213 |  |  |  |
| 4 | 36 |  |  |  |
| 5 | 32 |  |  |  |
| 6 | 18 |  |  |  |
| 7 | 11.30 am or half past 11 in the morning |  |  |  |
| 8 | 100 |  |  |  |
| 9 | 125 |  |  |  |
| 10 | 63 |  |  |  |
| 11 | 24 |  |  |  |
| 12 | 70 |  |  |  |
| 13 | 35 |  |  |  |
| 14 | 6.50 am or ten to seven in the morning |  |  |  |
| 15 | $24 |  |  |  |
| 16 | 81 |  |  |  |
| 17 | 70 years or 70 |  |  |  |
| 18 | 31 |  |  |  |
| 19 | 9 |  |  |  |
| 20 | 50 or 50 g |  |  |  |

FIJI MATHEMATICS ASSOCIATION

**FINALS**

# RESULT SHEET CLASS 6: 2012

Name of School:……………………………………………..

Name of Marker:…………………………………………….

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Answers** | **+100** | **-100** | **Cumulative Score** |
| 1 | 12 |  |  |  |
| 2 | 16 or 16 times |  |  |  |
| 3 | 0.1111 |  |  |  |
| 4 | 12 |  |  |  |
| 5 | 65 |  |  |  |
| 6 | 150 |  |  |  |
| 7 | 96 cm2 |  |  |  |
| 8 | 2 |  |  |  |
| 9 | 12 |  |  |  |
| 10 | $435 or 435 |  |  |  |
| 11 | 90 |  |  |  |
| 12 | 80 |  |  |  |
| 13 | 5 or 5 times |  |  |  |
| 14 | 59 minutes or 59 |  |  |  |
| 15 | 80kg |  |  |  |
| 16 | 180 or 180 min |  |  |  |
| 17 | 8.75 cm or 8 cm |  |  |  |
| 18 | 16 |  |  |  |
| 19 | 10 |  |  |  |
| 20 | 29 |  |  |  |

FIJI MATHEMATICS ASSOCIATION

**FINALS**

# RESULT SHEET CLASS 7/FORM 1: 2012

Name of School:……………………………………………..

Name of Marker:…………………………………………….

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Answers** | **+100** | **-100** | **Cumulative Score** |
| 1 | 34 cents or $0.34 |  |  |  |
| 2 | 48 |  |  |  |
| 3 | 37 |  |  |  |
| 4 | 16 |  |  |  |
| 5 | 6.4% or 6.4 |  |  |  |
| 6 | 12 or 12m3 |  |  |  |
| 7 | $24 or 24 dollars |  |  |  |
| 8 | 24 |  |  |  |
| 9 | $175 or 175 dollars |  |  |  |
| 10 | 2 |  |  |  |
| 11 | 2640 |  |  |  |
| 12 | 2m |  |  |  |
| 13 | 3 kg or 3000 g |  |  |  |
| 14 | 5814 |  |  |  |
| 15 | 50 |  |  |  |
| 16 | 212 |  |  |  |
| 17 | 3.20 pm or twenty past 3 in the afternoon |  |  |  |
| 18 | 110 m or 11000 cm |  |  |  |
| 19 | 90 m |  |  |  |
| 20 | 19,200 m3 or 19,200 |  |  |  |

FIJI MATHEMATICS ASSOCIATION

**FINALS**

# RESULT SHEET CLASS 8/FORM 2: 2012

Name of School:……………………………………………..

Name of Marker:…………………………………………….

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Answers** | **+100** | **-100** | **Cumulative Score** |
| 1 | 1:5 |  |  |  |
| 2 | 4 |  |  |  |
| 3 | 60 |  |  |  |
| 4 | 6 |  |  |  |
| 5 | 4 |  |  |  |
| 6 | 12 years |  |  |  |
| 7 | 24 |  |  |  |
| 8 | 3.20 p.m |  |  |  |
| 9 | -1 |  |  |  |
| 10 | 12 or 12m3 |  |  |  |
| 11 | $1,350 |  |  |  |
| 12 | 16 |  |  |  |
| 13 | 35 |  |  |  |
| 14 | 60 |  |  |  |
| 15 | 336 or 336 miles |  |  |  |
| 16 | 79 |  |  |  |
| 17 | 55 |  |  |  |
| 18 | 27 |  |  |  |
| 19 | 21 |  |  |  |
| 20 | 99 |  |  |  |

FIJI MATHEMATICS ASSOCIATION

**FINALS**

# RESULT SHEET FORM 3: 2012

Name of School:……………………………………………..

Name of Marker:…………………………………………….

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Answers** | **+100** | **-100** | **Cumulative Score** |
| 1 | $12 |  |  |  |
| 2 | 6 |  |  |  |
| 3 | -12 |  |  |  |
| 4 | 40% or forty percent |  |  |  |
| 5 | 83 |  |  |  |
| 6 | 9 |  |  |  |
| 7 | 82 |  |  |  |
| 8 | 25% or twenty five percent |  |  |  |
| 9 | $9.00 or nine dollars |  |  |  |
| 10 | 4004 |  |  |  |
| 11 | 38 cents or $0.38 or thirty eight cents |  |  |  |
| 12 | 19 |  |  |  |
| 13 | 896 or 896 m2 |  |  |  |
| 14 | $1,000 |  |  |  |
| 15 | 6 |  |  |  |
| 16 | 102 |  |  |  |
| 17 | 36 |  |  |  |
| 18 | 10 |  |  |  |
| 19 | 70 or 70 cm2 |  |  |  |
| 20 | 5 |  |  |  |

FIJI MATHEMATICS ASSOCIATION

**FINALS**

# RESULT SHEET FORM 4: 2012

Name of School:……………………………………………..

Name of Marker:…………………………………………….

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Answers** | **+100** | **-100** | **Cumulative Score** |
| 1 | Two times or twice or 2x |  |  |  |
| 2 | 15 |  |  |  |
| 3 | 5:3 |  |  |  |
| 4 | 122 |  |  |  |
| 5 | $1,000 |  |  |  |
| 6 | 50 |  |  |  |
| 7 | 10 or 10 m/min |  |  |  |
| 8 | $560 |  |  |  |
| 9 | $4.59 or four dollars and fifty nine cents |  |  |  |
| 10 | 4 |  |  |  |
| 11 |  |  |  |  |
| 12 | 55 or 55 cm2 |  |  |  |
| 13 | 42 |  |  |  |
| 14 | 250 |  |  |  |
| 15 | 26 |  |  |  |
| 16 | 36 or 36 cm |  |  |  |
| 17 | 25% or twenty five percent |  |  |  |
| 18 | 15° or 15 degrees |  |  |  |
| 19 | 375 |  |  |  |
| 20 | 37.5% or 37.5 percent |  |  |  |

FIJI MATHEMATICS ASSOCIATION

**FINALS**

# RESULT SHEET FORM 5: 2012

Name of School:……………………………………………..

Name of Marker:…………………………………………….

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Answers** | **+100** | **-100** | **Cumulative Score** |
| 1 | 16 |  |  |  |
| 2 | 9 |  |  |  |
| 3 | 32% or 32 or thirty two |  |  |  |
| 4 | 20 or twenty or 20% |  |  |  |
| 5 | 32 |  |  |  |
| 6 | 138 minutes or 138 |  |  |  |
| 7 | 17 or seventeen |  |  |  |
| 8 | 3,3,8 |  |  |  |
| 9 | 60 or 60 km/h |  |  |  |
| 10 | or |  |  |  |
| 11 | 52.5 min |  |  |  |
| 12 | 144 or 144 cm2 |  |  |  |
| 13 | 22 years |  |  |  |
| 14 | 4 or four |  |  |  |
| 15 | 8 or 8 cm2 |  |  |  |
| 16 | $25,500 |  |  |  |
| 17 | 37.5% |  |  |  |
| 18 | 30 |  |  |  |
| 19 | 11:02:15 or Two minutes and fifteen seconds past 11 am. |  |  |  |
| 20 | 64 |  |  |  |

FIJI MATHEMATICS ASSOCIATION

**FINALS**

# RESULT SHEET FORM 6: 2012

Name of School:……………………………………………..

Name of Marker:…………………………………………….

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Answers** | **+100** | **-100** | **Cumulative Score** |
| 1 | 1 |  |  |  |
| 2 | 36 or thirty six |  |  |  |
| 3 | 9:40 or 9:40 am |  |  |  |
| 4 | 18 years or eighteen years |  |  |  |
| 5 | $320 or three hundred and twenty dollars. |  |  |  |
| 6 | 33 years |  |  |  |
| 7 | 839 |  |  |  |
| 8 | 34 or thirty four |  |  |  |
| 9 | Ten or 10 |  |  |  |
| 10 | 25% or twenty five percent |  |  |  |
| 11 | 3 |  |  |  |
| 12 | 360 |  |  |  |
| 13 | or or |  |  |  |
| 14 | 9.5 hours 9½ hours or nine and a half hours |  |  |  |
| 15 | $19 or nineteen dollars |  |  |  |
| 16 | 7:8 |  |  |  |
| 17 | 108° |  |  |  |
| 18 | 420 km or 42000m |  |  |  |
| 19 |  |  |  |  |
| 20 | 51 or 51 cm |  |  |  |

FIJI MATHEMATICS ASSOCIATION

**FINALS**

# RESULT SHEET FORM 7: 2012

Name of School:……………………………………………..

Name of Marker:…………………………………………….

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Answers** | **+100** | **-100** | **Cumulative Score** |
| 1 | 2.1 or |  |  |  |
| 2 | 10.00 or 10.00 am or ten o’clock in the morning |  |  |  |
| 3 | 5 or five |  |  |  |
| 4 | 612 |  |  |  |
| 5 | 190 |  |  |  |
| 6 | 628 |  |  |  |
| 7 | $19 |  |  |  |
| 8 | 36 |  |  |  |
| 9 | 105 |  |  |  |
| 10 | +10 or 10 |  |  |  |
| 11 | 120 |  |  |  |
| 12 |  |  |  |  |
| 13 | 13000 |  |  |  |
| 14 | 360 |  |  |  |
| 15 | 51 cm or 51 |  |  |  |
| 16 | 30 |  |  |  |
| 17 | 900 |  |  |  |
| 18 | 18 |  |  |  |
| 19 | 369 |  |  |  |
| 20 | 61 |  |  |  |