Quantitative Aptitude - 01

1. Advanced: In how many ways can we give change for rs 100 using 1 rupee and 2 rupee coins? For example for 5 rs we can give three ways

   (1,1,1,1) (1,1,1,2))(,1,2,2)

Answer: 51

2. We are driving along a highway at a constant speed of 55 miles per hour (mph). You observe a car one half mile behind you. The car is moving fast and zooms past you exactly one minute later. How fast is this car traveling (mph) if its speed is constant?

a. 80
b. 70
c. 72
d. 85

Answer: 85

3. What is the next number in the series 70,54,45,41?

a. 40
b. 35
c. 45
d. 54

Answer: 40

4. George can do some work in 8 hours. Paul can do the same work in 10 hours while Hari can do the same work in 12 hours. All the three of them start working at 9 AM. while George stops work at 11 am,the remaining two complete the work,approximately when will the work be finished?

a. 11:30 AM
b. 12 noon
c. 12.30 PM
d. 1 PM

Answer: 1 PM

5. A certain sum of money is sufficient to pay either George's wages for 15 days or mark's wages for 10 days, for how long will it suffice it both George and mark work together?

a. 9
b. 8
c. 6
d. 5
Answer: 6

6. Advanced: a,b,c are positive numbers such that a+b+ab= 8, b+c+bc=15 and c+a+ca = 35

What is the value of a+b+c+abc?

Answer: 36

7. The 260th term of the series a,b,b,c,c,c,d,d,d,d,e,e,e,e,e,f,f,f,f,f,f,….is:

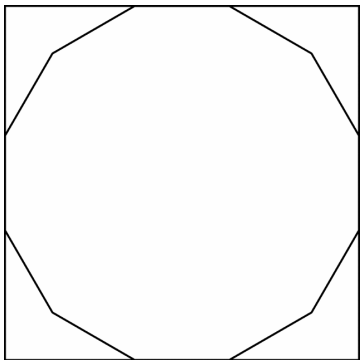
a. U
b. W
c. T
d. V

Answer: W

8. Advanced: It is possible to pair up all the numbers from 1 to 70 so that the positive difference of the numbers in each pair is always the same. For example, one such pairing up is (1,2), (3,4), (5,6),….(69,70). Here the common on difference is 1. What is the sum of all such common differences.

Answer: 1680

9. Advanced: A regular polygon with 12 sides (dodecagon) is inscribed in a square of area 24 square units as shown in the figure where four of the vertices are mid points of the sides of the square. The area of the dodecagon in square units is.



Answer: 19.26

10. Advanced: In how many ways can we give change for 100 using 1 rupee and 2 rupee coins? For example for 5 rs, we can give in three ways : (1,1,1,1,1) (1,1,1,2) (1,2,2)

Answer: 51

11. Advanced: In the figure shown, a triangle is divided into nine strpes of equal height each parallel to the same side of the triangle. The shaped stripes have a total area of 135 square units. What is the area of the triangle in square units.

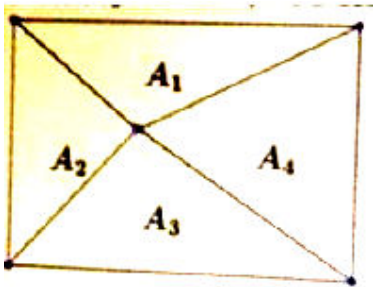
Answer: 243

12. In the IT department of backrub, the administrator password is changed every month. The team of administrator, spread across the globe, receive an 8 digits number via email. This number is to be prefixed with a single digit number and suffixed with a single digit number to get the actual password. The password is divisible by 11 and 8. If the team received 54218345 this month. Then which of the following pairs give valid prefix and suffix respectively?

a. 3,7
b. 1,6
c. 2,4
d. 4,2

Answer: 1,6

13. In the diagram below, the areas of the triangles are as follows: A1=1024, A2=1016, A3=1057. What is the area of A4?



a. 1032
b. 1036
c. 1020
d. 1065

Answer: 1065

14. The people of the land of unsymmetrix to ensure that there is very little symmetry in life. Even their unit of length (no one knows what it is) is called as unsym. It is their pride that the front wheel and the real wheels of their bikes are of different sizes but are made so that they will not slip on the road . In a certain model of bike the radius of the front wheel is 28 unsyms and that of the back wheels is 14 unsyms after driving a certain distance if front wheel had revolution 54 times how many revolution would the back wheel have undergone?

a. 136
b. 122
c. 108
d. 94

Answer: 108

15. Rs. 3000 is distributed among A, B and C such that A gets 2/3rd of what B and C together get and C gets ½ of what A and B together get. Find C's share.

a. 1500
b. 1000
c. 1200
d. 1800

Answer: 1000

16. Given that 1<a<b<c

a. exp(a^d)/exp(b^c)
b. exp(b^d)/exp(a^c)
c. exp(c^d)/exp(a^b)
d. exp(b^c)/exp(a^d)

Answer: exp(c^d)/exp(a^b)

17. 32 times of a two digit number is 23 times the number obtained by reversing its digit. The sum of its digit is 15 Find the number:

a. 96
b. 69
c. 87
d. Insufficient information

Answer: 69

18. Let N be the greatest number that will divide 148, 246 and 623 leaving remainders 4, 6 and 11 respectively. What is the remainder if N is divided by 7?

a. 0
b. 1
c. 5
d. 6

Answer: 5

19. A store is selling a jacket on sale at 30% off the marked price. A matching pair of pants is on sale at 40% off the marked price. If the marked price of the pants is Rs. 8500 less than the marked price of the jacket and the total sale price of both items is Rs. 23500, then what is the marked price of the jacket?

a. 21700
b. 21800
c. 22000
d. 22100

Answer: 22000

20. Initially, when Sona and Tina left for a shopping expedition , Sona had three times the money than Tina had. They bought things amounting to Rs. 480 altogether, out of which Tina's share was 65%. At the end of shopping, Sona was left with 4 times the amount that Tina had. What was the amount with Tina at the beginning?

a. 1080
b. 1248
c. 768
d. 936

Answer: 1080

21. In a group of 5 families, every family has a certain number of children, such that the number of children forms an arthmetic progression with a common difference of one, starting with two children in the first family. Despite the objection of their parents every child in a family has three times as many pets to look after as the number of offspring in the family. What is the total number of pets in the entire group of five families.

a. 270
b. 99
c. 165
d. 27

Answer: 270

Quantitative Aptitude - 02

1. How many number plates can be made if the number plates have two letters of the English alphabet (A-Z) followed by two digits (0-9) if the repetition of digits or alphabets is not allowed?

a. 56800
b. 56500
c. 52500
d. 58500

Answer: 58500

2. A, B and C can together do some work in 72 days.A and B together do two times as much work as C alone, and A and C together can do our times as much word as B alone. Find the time taken by C alone to do the whole work.

a. 144 days
b. 360 days
c. 216 days
d. 180 days

Answer: 216 days

3. In a cricket tournament, 16 school teams participated. A sum of Rs.8000 is to be awarded among them as prize money. If the team placed last is award Rs.275 as prize money and the award increases by the same amount for successive finishing places, how much will the team placed first receive?

a. 1000
b. 500
c. 1250
d. 725

Answer: 725

4. A and B completed a work together in 5 days. Had A worked at twice his own speed and B half his own speed, it would have taken them 4 days to complete the job. How much time would it take for A alone to do the job?

a. 10 days
b. 20 days
c. 25 days
d. 15 days

Answer: 10 days

5. Eesha's father was 34 years of age when she was born.her younger brother, Shashank, now that he is 13,is very proud of the fact that he is as tell as her, even though he is three years younger than her. Eesha's mother, who is shorter than Eesha,was only 29 when Shashank was born .what is the sum of the ages of Eesha's parents now?

a. 92
b. 76
c. 66
d. 89

Answer: 92

6. A sum of Rs 2387 is divided into three parts in such a way that one fifth of the first part, one half of the second part and fourth one the third part are equal. Find the sum of five times the first part, three times the second part and four times the third part (in rupees).

a. 9982
b. 7812
c. 9114
d. 10199

Answer: 10199

7. Apples cost L rupees per kilogram for the first 30 kilograms and Q rupees per kilogram for each additional kilogram. If the price paid for 33 kilograms of apples is Rs. 1167 and for 36 kilograms of apples is Rs. 1284, then the cost of the first 10 kgs of apples is:

a. Rs.117
b. Rs.1053
c. Rs.350
d. Rs.281

Answer: Rs.350

8. A, B and C can together do some work in 72 days. A and B together do two times as much work as C alone, and A and C together can do four times as much work as B alone. Find the time taken by C alone to do the work.

a. 144 days
b. 360 days
c. 216 days
d. 180 days

Answer: 216 days

9. A and B are traveling in the same duration. B is traveling at a constant speed of 55kmph and the distance between A and B is 1.5 km. If A crosses B within 1 minute, what is the speed of A?

Answer: 145 kmph

10. In a test with 26 questions, five points were deducted for each wrong answer and eight points were added for every correct answer. How many were answered correctly if the score was zero?

a. 11
b. 10
c. 13
d. 12

Answer: 10

11. In a week in July the average daily temperature of Monday to Wednesday was 27 degrees and of Tuesday to Thursday was 24 degrees.if the temperature remained constant throughout in any given day.

a. 20
b. 22
c. 18
d. 16

Answer: 18

12. In this question x^y stands for x raised to the power y. For example , 2^3=8 and 4^1.5=8. If a,b are real numbers such that a+b=3, a^2+b^2=7, the value of a^4+b^4 is?

a. 49
b. 45
c. 51
d. 47

Answer: 47

13. The air conditioned bus service from Siruseri industry park runs at regular intervals throughout the day. It is now 3:12 pm and it has arrived 1 minute ago but it was 2 minutes late. The next bus is due 3:18 pm. When is the next bus due?

a. 3:27 pm
b. 3:29 pm
c. 3:24 pm
d. 3:25 pm

Answer: 3:27 pm

14. A road network covers some cities.city c can be reached only from city a or city b.the distance from a to c is 65 kms and that from B to C is 30 kms. The shortest distance from a to b is 58 kms. The shortest distance from city P to A is 420 kms and the shortest distance from city P to B is 345 kms. The shortest distance from city P to city C in kms is:

a. 153
b. 478
c. 403
d. 375

Answer: 375

15. A 70 foot pole stands vertically in a horizontal plane supported by three 490 foot wires, all attached to the top of the pole. Pulled and anchored to three equally spaced points in the plane. How many feet apart are any two of those anchor points?

Answer: 149.61

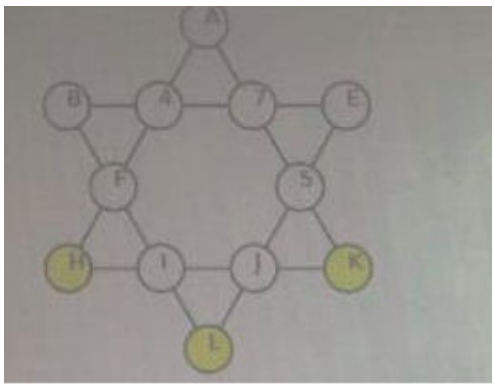
16. Advanced: The set A (0) is (1,2,3,4). For n > 0,A(n+1) contains all possible sums that can be obtained by adding two different numbers from what is the number of integers in A(10).

Answer: 67

17. Advanced What is the number of positive integers less than or equal to 2017 that have at least one pair of adjacent digits that are both even. For example 24,564 are two examples of such numbers while 1276 does not satisfy the required property.

Answer: 738

18. In the following star, the numbers on each straight line are in arithmetic progression. What is H+K+L?



a. -8
b. 11
c. 5

Answer: -8

19. Considering a hash table with 100 slots. Collisions are resolved using chaining. Assuming simple uniform hashing, what is the probability that the first 3 slots are unfilled after the first 3 insertions? (NOTE:100 ^ 3 means 100 raised to the power 3)

a. (97 * 96 * 95) / 100 ^ 3
b. (97 * 96 * 95) / (6 * 100 ^ 3)
c. (97 * 97 * 97) / 100 ^ 3
d. (99 * 98 * 97) / 100 ^3

Answer: (97 * 97 * 97) / 100 ^ 3

20. Advanced: In this question x^y stands for x raised to the power y .for example 2^3=8 and 4^1.5=8

    Find the number of positive integers n>2000 which can be expressed as n=2^m+2^n where m and n are integers (for example, 33=2^0+2^5)

Answer: 65

21. Fishing is a serious environmental issue.It has been determined by the scientists that if the net of a trawler has mesh size x cm by x (square mesh) then the percentage of fish entering the net that are caught in the net is (100-0.02x^2-0.05x.for example if the mesh size is zero 100% of the fish that enter the net will be caught. The trawler with net with a square mesh that was suspected of using an illegal size net dropped its net to the ocean floor near the damans and coast guard officials arrested the crew.the scientists later looked at the size of the fish caught and estimated that the net used by the trawler at least 97.93% of the fish entering the net would be caught. What is the maximum value of x for the net by the trawler?

a. 8.5
b. 9
c. 11
d. None of the answers

Answer: 9

Quantitative Aptitude - 01

1. Babla alone can do a piece of work in 10 days. Ashu alone can do it in 15 days. The total wages for the work is Rs.5000. How much should be Babla be paid if they work together for an entire duration of work?

a. 5000
b. 4000
c. 3000
d. 2000

Answer: 3000

2. How many of the integers from 1 to 86 (inclusive) contain the digit 4 or have the digit sum divisible by 4?

a. 40
b. 41
c. 24
d. 35

Answer: 35

3. In this problem ABS(X)is the mathematical value of X without regard to its sign. for example ABS(3)IS 3 and ABS(-3) is also 3.if the equation ABS(x+12)+ABS(x-5)=r is satisfied by infinitely many values of x the value of r is

a. 12
b. No such r exists
c. 17
d. 5

Answer: 17

4. Of height 36 m at the edge of a road broke (While remaining attached to the tree) at a certain height and it fell in such a way that touched the other edge of the road. If the breadth of the road is 12m. Then the height at which the tree broke was

a. 16
b. 18
c. 24
d. 12

Answer: 16

5. Two cars start at the same time from a and b and travel towards each other at speeds of 50kmph and 60 kmph respectively at the time of their of their meeting the second car has travelled 120 km more than the first the distance between a and b is

a. 720 km
b. 1320 km
c. 600 km
d. 1230 km

Answer: 1320 KM

6. The numbers from 5 to 26 are written side-by-side as follows 567..2526. What is the remainder of dividing the resultant number by 9?

a. 1
b. 3
c. 8
d. 5

Answer: 5

7. A certain number of teams took part in a competition each team in the competition must play one game with each of the other teams, how many teams took part in the competition if they played 55 games in all?

a. 10
b. 12
c. 7
d. 11

Answer: 11

8. Which of the following represents the largest 4 digit number which can be added to 7855 in order to make the derived number divisible by each of the following numbers 12,14,21,33 and 54?

a. 461
b. 8777
c. 9953
d. 9965

Answer: 461

9. You are driving along a highway at a constant speed of 55 miles per hour you observe a car one-half mile behind you the car is moving fast and zooms past you exactly one minute later. How fast is this car travelling (mph)if its speed is constant?

a. 80
b. 70
c. 85
d. 72

Answer: 85

10. A store is selling a jacket on sale at 30% off the marked price. A matching pair of pants is on sale at 40% off the marked price. If the marked price of the pants is Rs. 8500 less than the marked price of the jacket and the total sale price of both items is Rs. 23500, then what is the marked price of the jacket?

a. 21700
b. 21800
c. 22000
d. 22100

Answer: 22000

11. In a group of 5 families, every family has a certain number of children, such that the number of children forms an arthmetic progression with a common difference of one, starting with two children in the first family. Despite the objection of their parents every child in a family has three times as many pets to look after as the number of offspring in the family. What is the total number of pets in the entire group of five families.

a. 270
b. 99
c. 165
d. 27

Answer: 270

12. If we add x to both numerator and denominator of the fractions ⅔ and 20/23 the resulting fractions are equal x is

a. 56
b. 12
c. 7
d. 143

Answer: 7

13. How many words of 11 letters could be formed with all the vowels present only in the even places, and the consonants only in the odd places, using letters of the english alphabet? Each letter may appear only once . the vowels are A,E,I,O,U and the consonants are the remaining letters of the alphabet. In the answer ,n! Donotes n factorial (or 1*2*...*n)

a. 21!
b. 26! / 5!
c. 21! * 5! / 15!
d. 21! / (5!*5!)

Answer: 21! * 5! / 15!

14. On a certain assembly line the rejection rate for hyundai i10's production was 4 percent for hyundai i20's production 8 percent and the two cars combined 7 percent .what was the ratio of hyundai i20's production to hyundai i10's production?

a. 1:1
b. 2:1
c. 1:2
d. 3:1

Answer: 3:1

15. The average temperature of may, July and august was 31 degrees. The average temperature of July, august and October was 30 degrees, if the temperature of May was 30 degrees , find the temperature October (in degrees)

a. 27
b. 28
c. 26
d. 25

Answer: 27

16. The arithmetic mean of three numbers is 147.if the mean of the first two numbers is 141.what is the third number?

a. 18
b. 159
c. 6
d. 723

Answer: 159

17. Raj divided 50 in to two parts such that the sum of their reciprocal is 1/12 we get the parts as

a. 28,22
b. 36,14
c. 20,30
d. 24,36

Answer: 20, 30

18. A child was looking for his father. He went 90 metres in the East before turning to his right. He went 20 metres before turning to his right again to look for his father at his uncle's place 30 metres from this point. His father was not there. From here he went 100 metres to the North before meeting his father in a street. How far did the son meet his father from the starting point?

a. 80
b. 30
c. 90
d. 100

Answer:100

19. The greatest common divisor of two numbers A and B is 22. The least common multiple of A and B is 2002, if A has fewer divisors B, what is A + B?

Answer: 20

20. Usha has three boxes with ten balls in each.she plays a game where the goal is to end up with as few balls as possible in the boxes.the boxes are each marked with a seperate number 4,7, and 10.it is allowed to remove n balls from the box marked with the number n,put three of them aside and put the rest in another box.what is the least possible number of balls the boxes together can contain in the end??

Answer: 1

21. For a positive integer N. Let P(N) be the product of the digits of N. example,P(123) = 6. The value of P(101) + P (102)+.....P(201) + P(202) is

Answer: 504

22. We have two cubes . the sum of the two cubes is 25. The sum of a side length of one cube and a side length of the other is 4. What is the sum of the total surface areas of the two cubes?

Answer: 57