IBM Arithmetic paper

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Q1. Express a speed of 54 km/hr in meters/second.

ANS: 25 m/sec

Q2. A car can cover 350 km in 4 hours. If the speed is decreased by 12 1/2 kmph,how much time does the car take to cover a distance of 450 km?

ANS: 4 hrs SP

Q3. A person covers a certain distance at a he es 1 increases his speed by 25% then he take minutes less to cover the same distance. Find the time He by him initially to cover the distance at the original speed

ANS: 7 hrs O

Q4. A car covers a certain dice going at a speed of 60 kmph and returns to the st g point at a speed of 40 kmph. Find the average speed whole journey.

ANS: 48 kmph.

Q5. What is the time taken by a train running at 54 km/hr to cross a standing on a platform, the length of the train being 180 m?

ANS:12 seconds

Q6. How long will a train 100 m long and travelling at a speed of 45 kmph, take to cross a platform of length 150 m?

ANS: 27 sec

Q7. Find the length of the bridge, which a train 120 m long travelling at 54 kmph can cross in 30 seconds.

ANS: 350 m

Q8. A worker reaches his work place 15 minutes late by walking at 4 kmph from his house.The next day he increases his speed by 2 kmph and reaches in time. Find the distance from his house to his workplace

ANS: 8 km

Q9. A person leaves his house and travelling at 4 kmph reaches his office 10 minutes late.Had travelled at 7 kmph he would have been 20 mins early. Find the distance from the house to the office? –

ANS: 14/3

Q10. Find the en by a train 150 m long running at a speed of 63 kmph to cross another train of length 100 m long running at ph in the same direction

ANS: 75 Seconds

Q11. A train crosses two persons, cycling in the same direction as the train in 12 and 18 seconds respectively.If the speeds of the two cyclists are 9 and 18 kmph respectively. Find the length and speed of the train.

ANS: 98 m

Q12. Two trains running at 45 and 54 kmph cross each other in 12 seconds when they run in opposite directions. When they run in the same direction, a person in the faster train observes that he crossed the other train in 32 seconds. Find the lengths of the two trains

ANS: 450

Q13. Two trains of length 150 m and 250 m run on parallel lines.When they run in the same direction it will take 20 seconds to cross each other and when they run in opposite direction it will take 5 seconds. Find the speeds of the two trains.

ANS: 272 and 211

Q14. I had to catch about us which was 225 m ahead of me.The bus also started at the same time. If the speed of the bus was 2.5 m/sec and myspeed was 36 kmph,in how much time can i catch the bus?

ANS: 20 seconds

Q15.The distance from my house to my friends house is 12 km. walked at a speed of 4 kmph and after every kilometre took rest for 10 mins.How much time did it take for me to reach my friends house?

ANS: 4 hrs and 50 mins

Q16. A train covered a distance of 250 km, partly at an average speed of 40 kmph and partly at 60 kmph.Find the distance convered at 40 kmph if it took 5 hrs for the train to covert distance.

ANS: 120 km Q

Q18. A bus covered a distance of 160 km in 4 hrs covering a part of it at 30 kmph and the remaining at 70 much time did the us travel at 70 kmph?

ANS: 11/2 hs

Q19. A car takes 2 hours more a distance of 480 km when its speed is reduced . Find its usual speed

ANS: 55 kmph

Q20. A person covered the first 40 km of his journey at 50 kmph,the next 70km at 35 kmph and the remaining distance in 12 mins.If the average speed of the entire journey is 52 kmph.Find the distance covered in the last stretch of the journey.

ANS: 34 km

Q21. A train takes 10 seconds to cross a man standing on a platform and 44 seconds to cross the platform.What is the length of the platform.What is the length of the platform if the speed of the train is 72 kmph?

ANS: 440 m

Q22. A train travelling at 36 kmph takes 48seconds to cross a bridge. It then crosses a man cycling at the rate of 9 kmph in the same direction in 20 seconds. Find the length of the bridge

ANS: 64 kmph

Q23. A train crosses two bridges 370 m and 480 m long in 51 and 62 seconds respectively. Find the speed of the train.

ANS: 64 kmph

Q24. A man started 15 minutes late and by travelling at a speed which is 5/4th of his usual speed reached hi office 20 mins early.What is the usual time of the journey

ANS: 100 mins

Q25. A parachutist, before he open his parachute, falls for a time t1, and covers a distance 2 and after he opens his parachute he falls : 2 and covers a distance Vtz.V. is the velocity attained just before the parachute is opened and is given by 5t1.After what time did he open the parachute,if the total distance covered by the parachutist is 1500m and the total time is 30 seconds?

ANS: 20 seconds

Q26. Akash, Anurag and Rishab are running around a circular track of length 900 m with respective speeds of 15 m, 20 m and 30 m/sec.Akash and Anurag are running in the same direction while Rishab is running in the opposite direction.After how much time will all the three of them meet for the first time?

ANS: 120 seconds

Q27. A police patrol party travelling at 60 kmph crosses an escaping thief travelling in the opposite direction at 48 kmph.The police party has to travel for a further 5 minutes before it Can find a gap in the median where it can take a Uturn and start chasing the thief. After how much time after the police party crosses the thief does it catch him?

ANS: 32 mins

Q28. In a 1000 m race A reaches the goal 5 seconds earlier and beats B by 50 m.What is As speed?

ANS: 1010/19 m/s

Q29. Two points A and B are rically opposite points on a circular road of circumference 12 km. A cyclist started from A and made three rounds. He made the first round with a speed of 12 kmph and decreased his speed by 3 kmph for every round. What is the interval between the first time he passes through B and the third time he passes through B?

ANS: 100 mins

Q30. Two men left simultaneously two places A and B.One of them left A for B while the other left B for A.Both travel each at his own uniform velocity.The first person on reaching B returns to A and then again travels bach to B and so on.What will be the distance covered by the first person when they meet for the third time given the ratio of the speed of the first person to that of the second person is 3:2 the distance between A and B is 500 m?

ANS: 1500 m

Q31. A person takes 6 hours to go by car to a certain place and return by bus. He gains 2 hrs if he goes both ways by car. How long would he have taken if he had gone by bus both ways?

ANS: 6 hrs

Q32. Car A and car B are travelling on two perpendicularly ads towards city C with equal speeds. car A starts from a distance of 100 km at 11 am while car B starts from a distance of 70 km at 12 noon. At 2 pm the two cars are 50 km apart what is the speed with which they are travelling?

ANS: 20 kmph

Q33. Two trains of length 200 m and 100 m simultaneously writer - a tunnel of length 300 m from opposite ends at the same time on parallel tracks. The respective speeds of the two trains are 36 kmph and 18 kmph. After how much time from the instant the two trains entered the tunnel will the tunnel be free of traffic again?

ANS: 30 seconds

Q34. Rajat had covered one third of the total distance of his trip when his scooter failed. He then parked it and covered the remaining distance on foot, spending 20 times as long walking as riding. How many times was his riding speed more than his walking Speed?

ANS: 9

Q35. Ashish and Bali run towards each other from P and O. respectively with respective speeds of 36 kmph and 45 kmph. After

meeting each other if Ashish reaches Q in 5 hours, in how many hours will Bali reach P2

ANS: 3 1/5

Q36. A train of length 180 m travelling at 72 kmph over too motor cyclist travelling at 36 kmph at 4 pm. At 5 p.m. it . another cyclist travelling in the opposite direction at a speed of 18 kmph. When will the cyclist meet the motor cyclist?

ANS: 1 hr 30 min

Q37. Two men left simultaneously two places A and B. One of them left A for B and the other B for A. Both travelled each with his own uniform velocity. Having arrived at their destination, they turned back without stopping and tor.ned back to their starting points. First time they met on their own journey 18 km from B, the Second time on their 9 km from A. Find the distance AB.

ANS: 60 km

Q38.A car travel a total distance of 150 km. After travelling a part of the distance hour any trouble, the car develops an engine problem and proceeds at 2/3rd of its former speed and arrives at the destination 48 mins late. Had the problem developed 24 km further on, the car would have arrived 12 min Sooner. Find the original distance it travelled without any problem and the speed over that part of the journey.

ANS: 48km, 36kmph

Q39. Two cyclists simultaneously start from A to B and B to A respectively.They cross each other after a time t hours.The first person reaches B in another t1 hours while the second person reaches A in another t2 hours. Then

ANS: t-2t1t2/t1+t2

Q40. Ramu starts from P towards Q at a speed of 30 kmph and after every 12 min increase his speed by 5 kmph.If the distance between P and O is 52 km, then how much time does to cover the distance?

ANS: 120 min