

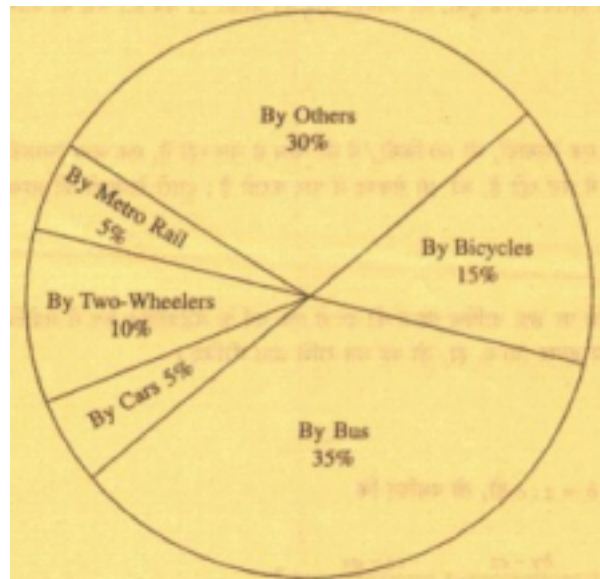
## DRDO MTS Tier 2 Genral Maths

1. A man spends 75% of his income, when his income is increased by 20%, he increases his expenditure by 10%. By how much per cent are his savings increased?
2. The marked price of a watch is Rs. 400. After allowing a discount of 25% on the marked price, there was a loss of Rs. 20. Determine the loss per cent.
3. The average of the squares of five consecutive positive integers is 66. Find the average of these five integers.
4. The radii of three concentric circles are in the ratio 1: 2: 3. Find the ratio of the area between the two inner circles to that between the two outer circles.
5. A dealer allows a discount of 12% on the marked price. How much per cent above the cost price, must he mark his goods so as to make a profit of 10%?
6. From a 5 litres of 20% solution of alcohol in water, 2 litres of solution is taken out and 2 litres of water is added to it. Find the strength of alcohol in the new solution.
7. A alone can complete a piece of work of Rs. 300 in 6 days; but by engaging an assistant, the work is completed in 4 days. Find the share to be received by the assistant.
8. The marked price of a watch was Rs. 820. A man bought the same for Rs. 570.72 after getting two successive discounts of which the first was 20%. Find the rate of second discount.
9. A shopkeeper mixes two varieties of tea - one costing Rs. 75 per kg and the other costing Rs. 50 per kg in the ratio 3: 2. If he sells the mixed variety at Rs. 62.40 per kg, find his gain or loss per cent.
10. The average of the age of a husband and wife, five years ago, was 25 years. The average of the present age of husband, wife and a child, born during the time, is 21 years. Determine the present age of the child.
11. A train, 100 m long travelling at 60 km/hr passes another train, twice as fast as this train and travelling in opposite direction, in 10 seconds. Find the length of the second train.
12. If the difference between compound interest, compounded half-yearly, and simple interest on a sum of money at 8% per annum for 1 year is Rs. 30, find the sum.
13. If  $x : a = y : b = z : c$ , then show that
$$\left[\frac{ax-by}{(a+b)(x-y)}\right] + \left[\frac{by-cz}{(b+c)(y-z)}\right] + \left[\frac{cz-ax}{(c+a)(z-x)}\right] = 3$$
14. A and B can complete a piece of work in 8 and 10 days respectively. However, they work alternately, one day each, with A beginning the work. In how much time will the work be completed?

15. A and B are partners in a business. If B invested  $\frac{1}{5}$ th of the capital for 10 months and received  $\frac{1}{3}$ rd of the profit after one year, then determine for how many months A invested his capital.

16. Water is flowing at the rate of 5 km/hr through a cylindrical pipe of diameter 14 cm into a rectangular tank which is 50 m long and 44 m wide. Determine the time in which the level of water in the tank will rise by 7 cm.

17.



The pie-chart, given above, shows various modes of transport used by 2400 officers of an organisation in a city to reach their office. Study the chart and answer the following questions:

- How many officers travel to their office by Metro Rail?
- How many more officers travel by two-wheelers than those travelling by cars?
- What should be the corresponding central angle in the pie-chart for showing officers travelling by bus?
- How many officers do not take Metro Rail, a bus, a car or a two-wheeler as their mode of transport in reaching their office?