18. Races

1. A, B, C run in a 200 m race. A beats B by 20 m and B beats C by 40 m. By how many meters does A beat C?
   (1) 60   (2) 56   (3) 50   (4) 64

2. In a km race, A beats B by 100 m and B beats C by 150 m. In that race by how many metres does A beat C?
   (1) 250 m   (2) 240 m   (3) 225 m   (4) 235m

3. In a km race A beats B by 100 metres and C by 190 metres. By how many metres does B beat C?
   (1) 90 m   (2) 98 m   (3) 100 m   (4) 105 m

4. In a 100m race A beats B by 20m or 4seconds. Find the time taken by A to complete the race (in sec).
   (1) 15   (2) 16   (3) 20   (4) 24

5. A is $1\frac{1}{3}$ times as fast as B. If in a race, A beats B by 80 metres, find the length of the race.
   (1) 350 m   (2) 250 m   (3) 320 m   (4) 240 m

6. Two persons P and Q run around a circular path, 6.75 km long, at respective speeds of 1 m/s and 1.5 m/s. When will they meet each other for the first time
   (i) if they travel in opposite directions? (ii) if they travel in the same direction?
   (1) 45 min, 3 hrs 45 min   (2) 45 min, 3 hrs 15 min   (3) 48 minutes, 4 hours   (4) 36 minutes, 4 hours

7. Ananya and Bhavya run around a circular track of length 1200 m at the respective speeds of 15 m/s and 8 m/s starting from the same point and at the same time travelling in the same direction. When will they meet each other at the starting point for the first time?
   (1) 3 min   (2) 6 min   (3) 30 min   (4) 20 min

8. A gives B a start of 10 m or 2 seconds in a 100 m race. Find A's speed if both finish simultaneously.
   (1) 5 m/s   (2) 5.5 m/s   (3) 5 5/9 m/s   (4) 6 m/s

9. In a 500 m race, A beats B by 50 m or 10 seconds. Find the speed of A.
   (1) 5 m/s   (2) 5.5 m/s   (3) 5 m/s   (4) 5 5/9 m/s

10. In a running race Bhasha gives Asha a head start of 350 m and still beats her by 50 m. If Bhasha's speed is 1¼ times Asha's speed, what is the length of the race?
    (1) 1 km   (2) 2 km   (3) 4 km   (4) 1.5 km

11. In a 100 m race, A beats B by 28 meters. Also, at the finish line, A was 7 seconds ahead of B. Find the time taken by A to complete the race.
    (1) 25 sec   (2) 18 sec   (3) 20 sec   (4) 32 sec

12. In a 100 meter race, if Asha gives Bob a start of 20 meters, then Asha wins the race by 5 seconds. Alternatively, if Asha gives Bob a start of 40 meters the race ends in a dead heat. How long does Asha take to run 200 m?
    (1) 10 seconds   (2) 20 seconds   (3) 30 seconds   (4) 40 seconds

13. In a 500 m race, the ratio of the speeds of two contestants A and B is 3:4. A has a start of 140 m. Then, A wins by:
    (1) 60 m   (2) 20 m   (3) 40 m   (4) 10 m

14. A runs $1\frac{2}{3}$ times as fast as B. If A gives B a start of 80 m, how far must the winning post be so that A and B might reach it at the same time?
    (1) 200 m   (2) 240 m   (3) 300 m   (4) 100m

15. In a race of 200m, A can beat B by 31m and C by 18m. In a race of 350m, C will beat B by:
    (1) 20 m   (2) 25 m   (3) 22.5 m   (4) 27.5 m

16. Two people P and Q start running towards a circular track of length 400 m in opposite directions with initial speeds of 10 m/s and 40 m/s respectively. Whenever they meet, P's speed doubles and Q's speed halves. After what time from the start will they meet for the third time?
    (1) 24 sec   (2) 26 sec   (3) 30 sec   (4) 34 sec

17. Shyam and Shreya start running simultaneously from a point O on a circular track in same direction. If the ratio of their speeds is 7 : 4 respectively, then how many times do they meet each other till they reach O again?
    (1) 2   (2) 3   (3) 4   (4) 7

18. Arun and Barun start running simultaneously from same point on a circular track in opposite directions and with speeds in the ratio of 3 : 5 respectively. Every time they meet, they interchange their speeds and also reverse their directions. At how many distinct points on the track do they meet each other, if they run continuously?
    (1) 2   (2) 3   (3) 5   (4) 8

Races							
1	2	6	1	11	2	16	2
2	4	7	4	12	3	17	2
3	3	8	1	13	2	18	4
4	2	9	4	14	1		
5	3	10	2	15	2		