INDUS RANGERS DEFENCE ACADEMY

4TH Floor Shakumbhari Complex, Chetmani Near: IP Vijaya Mall Bhelupur Varanasi, (U.P.– 221010)

CDS [MATHEMATICS]
PRACTICE SHEET

Time: 01:30 Hr **M. M.: 200**

General Instructions:

- There are 50 questions
- All questions have 4 marks for correct and –1 mark for wrong answer as a penalty.
- The name, date, and exam must be filled in OMR sheet otherwise the result will not be published.
- OMR fill should be properly.

1. Akhil can complete a piece of work in 24 days. Shyam can complete the same piece of work in 12 days. If both of them work together, in how many days can they complete the same piece of work?
   (a) 6 days (b) 8 days (c) 10 days (d) 12 days
2. In a factory, a piece of work is completed by Raima in 15 days while Joe can finish it in 10 days. The factory manager has to complete the work as soon as possible and so he orders Joe and Raima to work together. How many days will they take to complete the work?
   (a) 5 (b) 8 (c) 7 (d) 6
3. Jason can do a piece of work alone in 23.4 days, while Rafique can do the same piece of work alone in 39 days. In how many days can the duo complete the same work if they work together?
   (a) 14.750 (b) 14.625 (c) 14.875 (d) 14.375
4. P can complete 1/5 of a work in 12 days and W can complete 1/6 of a work in 8 days. In how many days can both P and Q together complete the work?
   (a) $26\frac{2}{3}$ (b) $25\frac{4}{5}$ (c) $22\frac{4}{5}$ (d) $24\frac{2}{3}$
5. A can complete 1/3 of a work in 7 days and B can complete 2/7 of the same work in 10 days. In how many days can both A and B together complete the work?
   (a) $12\frac{3}{8}$ (b) $11\frac{7}{8}$ (c) $13\frac{1}{8}$ (d) $15\frac{1}{7}$
6. Sumit and Rajiv, working together, can do a work in 20 hours whereas Sumit alone can do the same work in 25 hours. In how many hours can Rajiv alone do the work?
   (a) 70 (b) 90 (c) 80 (d) 100
7. A can do 20% of a work in 7 days and B can do 25% of the work in 7 days if they worked alone. How much of the work (in percentage) can they complete in 7 days if they worked together?
   (a) 38 % (b) 52 % (c) 56 % (d) 45 %
8. A can do 87.5% of the work in 35 days while B can do 65% of the same work in 23.4 days. If they work together, what fraction of the work will get done in 1 day?
   (a) 1/19 (b) 7/120 (c) 19/360 (d) 1/20

9. A alone can finish a work in 15 days. A works only for the first two days and last two days. The rest work is done by B and the work is completed in 20 days. In how many days A and B together can finish the work?
   (a) 90/8 (b) 80/7 (c) 80/9 (d) 70/8
10. Raju and Akbar take 4 hours and 6 hours to type 32 pages and 48 pages, respectively, on a computer. They are given an assignment of typing 256 pages. If they work together, typing on two different computers, starting at the same time, how much time will they take to complete the assignment (in hours)?
   (a) 16 (b) 14 (c) 18 (d) 12
11. Vipin can do a piece of work in 2 days; Vaibhav can do the same work in 3 days and Chirag can do the same work in 6 days. If they start working together, how many days will they take to complete the work?
   (a) 3 (b) 5 (c) 1 (d) 4
12. A, B and C can complete a work in 12, 15 and 20 days, respectively. How many days are required to finish the work if they work together?
   (a) 5 days (b) 4 days (c) 6 days (d) 3 days
13. M, N and O alone can complete a piece of work in 10, 12 and 15 days, respectively. In how many days can M, N and O complete 1/6th of the same work working together?
   (a) 4/3 days (b) 2/3 days (c) 5/3 days (d) 1/3 days
14. Ali, Avtar Singh and Ashok working together can finish a work in 8 days. Ali alone can do it in 20 days and Avtar Singh alone can do it in 24 days. In how many days can Ashok alone do the same work?
   (a) 30 (b) 28 (c) 26 (d) 25
15. A and B together can do a piece of work in 30 days. Together with C, they can complete the same work in 24 days. In how many days can C alone complete the same work?
   (a) 150 days (b) 120 days (c) 96 days (d) 90 days
16. A can complete a piece of work in 7 hours, B and C can complete the same work in 21/4 hours and C and A can complete the same work in 7/2 hours. So how long will it take B to complete the same work alone?
   (a) 22 hours (b) 20 hours (c) 21 hours (d) 24 hours
17. A can do 20% of a work in 4 days and B can do $33\frac{1}{3}\%$ of the same work in 10 days. They worked together for 9 days and then C completed the remaining work in 6 days. B and C together will complete 75% of the same work in:
   (a) 12 days (b) 9 days (c) 11 days (d) 10 days
18. A can do 1/3 of a work in 15 days, B can do 3/4 of the same work in 18 days and C can do the same work in 36 days. B and C work together for 8 days. In how many days will A alone complete the remaining work?
   (a) 24 days (b) 18 days (c) 20 days (d) 16 days

19. Ram can complete a piece of work in 15 days, Rohan in 25 days and Rohit in 30 days. Rohan and Rohit worked together for 2 days and then Rohit was replaced by Ram. In how many days altogether was the work completed?
    (a) 10 days (b) 8 days (c) 12 days (d) 7 days
20. A and B can do a piece of work in 10 days. B and C can do the same work in 15 days. If all the three work together, find the number of days required to complete the work.
    (a) 6 (b) 10 (c) 8 (d) 12
21. A and B can do a project in 9 days; B and C can do it in 12 days while C and A can do it in 18 days. In how many days A, B and C all working together, can finish the project?
    (a) 9 (b) 8 (c) 11 (d) 10
22. A and B can complete a work in 9 days, while B and C can complete the same work in 18 days. When working together, A, B and C can finish the same work in 8 days. How many days will it take for A and C to complete the work together?
    (a) 11 (b) 14 (c) 12 (d) 13
23. A and B together can complete a piece of work in 25 days, B and C together can complete the same work in 36 days, while C and A together can complete it in 30 days. If A, B, C and D together can complete this piece of work in 18 days, then in how many days can D alone complete this piece of work?
    (a) 225 (b) 210 (c) 200 (d) 180
24. A and B can complete a job together in 12.5 days; B and C can complete the same job together in 18.75 days, while C and A can complete the same job together in 15 days. In how many days will A, B and C together be able to complete the same job alongside D, who is only 40% as efficient as C?
    (a) $9\frac{1}{3}$ (b) $9\frac{17}{27}$ (c) $9\frac{2}{3}$ (d) $9\frac{7}{27}$
25. A + B, B + C can do a work in 12 days and 16 days respectively. If A works for 5 days and B works for 7 days and C completes the remaining work in 13 days, then C would complete the work in how many days?
    (a) 20 days (b) 22 days (c) 24 days (d) 26 days
26. A + B can do a work in 12 days while B + C in $6\frac{2}{3}$ days. Work is completed by A, B & C by working 3, 4 and 7 days, respectively. In how many days A alone would complete the whole work?
    (a) 25 days (b) 27 days (c) 32 days (d) 30 days
27. A and B can do a work in 13 days and 26 days, respectively. If they work for a day alternately, starting with A, then in how many days will the work be completed?
    (a) 17 (b) 16 (c) 13 (d) 14
28. Rani and Adya, working separately, can finish a task in 12 days and 16 days, respectively. They work in stretches of one day alternately. If Rani starts working first, then the task will be completed in:
    (a) $12\frac{1}{3}$ days (b) $13\frac{2}{3}$ days (c) $13\frac{1}{3}$ days (d) $12\frac{2}{3}$ days

29. Supraja and Kaushalya can complete a work in 30 days and 20 days, respectively. If Supraja starts the work and they work on alternate days, in how many days will 75% of the work be completed?
(a) 28 (b) 24 (c) 20 (d) 18

30. Keshav and Madhav decide to take up a project to complete together in 35 days while Keshav alone can finish the project in 84 days. But due to the non-availability of space, they decided to work on alternate days, Keshav working on day 1 and Madhav working on day 2 and day 3 and so on. In how many days will they complete the project?
(a) $70\frac{25}{42}$ (b) $62\frac{11}{21}$ (c) $66\frac{2}{5}$ (d) $64\frac{6}{35}$

31. A, B and C complete a work in 10, 15 and 20 days, respectively. They work on alternate days such that 1st day A, 2nd day B and 3rd day C. Again 4th day A, 5th day B and so on. If they work in the same way, in how many days will the work be completed?
(a) $13\frac{1}{2}$ (b) 14 (c) $13\frac{1}{4}$ (d) 15

32. Tushar, Megha, Punam and Richa can complete a piece of work in 10 days, 12 days, 15 days, and 18 days, respectively. In how many days will they work be completed if each of them works on alternate days starting with Megha on first day, Punam on second day, Richa on third day. Tushar on fourth day and then again Megha on fifth day and so on.
(a) 12 (b) 10 (c) 13 (d) 14

33. A can do a piece of work in 24 days and B can do it in 80 days. B works alone for 2 days and A works alone on 3rd day. This process continues till the work is completed. In how many days will the work be completed?
(a) 42 (b) 45 (c) 48 (d) 44

34. A can complete a piece of work alone in 200 days, while B can complete the same piece of work alone in 100 days. In every three-day cycle, both A and B work on day 1, only A works on day 2 and B works on day 3. This cycle continues till the work is completed. How many days in all does it take the duo to complete the work?
(a) $100\frac{1}{3}$ (b) $99\frac{2}{3}$ (c) $100\frac{1}{2}$ (d) 100

35. P, Q and R can finish a work in 5 days, 10 days and 15 days, respectively, working alone. P and Q work on first day, P and R work on second day and P and Q works on third day and so on till the work is completed. In how many days the work will be completed?
(a) 13/2 (b) 9/2 (c) 7/2 (d) 5/2

36. A alone can do a work in 11 days. B alone can do the same work in 22 days. C alone can do the same work in 33 days. They work in the following manner:
Day 1: A and B work, Day 2: B and C work
Day 3: C and A work, Day 4: A and B work, and so on.
In how many days will the work be completed?

(a) 12 days (b) 3 days (c) 6 days (d) 9 days

37. A and B complete a work in 24 and 30 days, respectively, working in 10 hours per day. They work is to be done in two shifts. The morning shift is for 6 hours and the evening shift is for 4 hours. On the first day, A works in the morning and B works in the evening and they interchange their shifts every-day. On which day did the work get completed?
(a) 24^{th} day (b) 27^{th} day (c) 30^{th} day (d) 21^{st} day
38. A and B are equally efficient and each can individually complete a piece of work in 36 days, if none takes any holiday. A and B started working together on this piece of work but A took a day off after every five days of work, while B took a day off after every seven days of work. If they had started work on 1 July 2021, on which date was the work completed?
(a) 19 July 2021 (b) 20 July 2021
(c) 22 July 2021 (d) 21 July 2021
39. A and B are equally efficient and each could individually complete a piece of work in 30 days, if none took any holiday. A and B started working together on this piece of work, but A took a day off after every four days of work, while B took a day off after every five days of work. If the duo had started work on 01 August 2022, on which date was the work completed?
(a) 19 August 2022 (b) 18 August 2022
(c) 16 August 2022 (d) 17 August 2022
40. Two men A and B, each working alone by working 12 hours per days, can complete a work in 20 days. For execution of the work, it was decided that A and B would be working for 8 and 6 hours per day, respectively, on alternate days starting with A. If it takes x days and y hours to complete the work then (x, y) is:
(a) (34, 4) (b) (33, 4) (c) (33, 2) (d) (34, 2)
41. A man and woman working on alternate days can finish a work in 15 days if the man works on the first day. The same work is finished in 14.5 days if they work on alternate days and if the woman starts on the first day. The work will be fished by a man alone in _____ days.
(a) 22 (b) 15 (c) 21 (d) 25
42. To do a certain work, Ajay and Bharat work on alternate days, with Bharat starting the work on the first day. Ajay can finish the work alone in 32 days. If the work gets completed in exactly 8 days, then Bharat alone can finish 7 times the same work in ____ days.
(a) 28/8 (b) 4 (c) 32/7 (d) 32
43. To do a certain work, A and B work on alternate days with B beginning the work on the first day. A alone can complete the same work in 24 days. If the work gets completed in $11\frac{1}{3}$ days, then B alone can complete $\frac{7}{9}$ part of the original work in:
(a) $5\frac{1}{2}$ days (b) 4 days (c) $4\frac{1}{2}$ days (d) 6 days

44. Aman and Rajan are working at a construction site. In some engineering experiment, Aman is constructing a wall, while Rajan is demolishing that wall. Aman can completely build the wall in 15 days, while Rajan will take 20 days to completely demolish the wall. In how many days will the complete wall be built for the first time if they work on alternate days, with Aman working on the 1st day?
    (a) 57 (b) 117 (c) 113 (d) 120
45. In a computer game, a builder can build a wall in 10 hours while a destroyer can completely demolish such a wall in 25 hours. Both builders and destroyers were initially designed to work together on level ground. But after 15 hours the destroyers were removed. How much time did it take to build the entire wall?
    (a) 16 hours 20 min. (b) 16 hours
    (c) 17 hours 2 min. (d) 18 hours 24 min.
46. There are two robots A and B, which can construct a duplicate of the great China wall working alone in 24 years and 20 years respectively. Also, there is a robot C, which can destroy the fully constructed wall in 30 years. If the robots are working alternately for 1 year each, one after the other, starting with robot A, then robot B, then robot C. After how many years will the wall be completed for the first time?
    (a) More than 51.4 years (b) Less than 17.3 years
    (c) 51.2 years (d) 49.5 years
47. P can do a piece of work in 30 days and Q in 40 days. They work together for 4 days and then Q leaves. The number of days taken by P to finish the remaining work is:
    (a) 23 days (b) 28 days (c) 30 days (d) 7 days
48. A and B can do a work in 15 days and 30 days, respectively. They start working together, but A leaves after 3 days. How much time will B take to complete the remaining work?
    (a) 21 days (b) 28 days (c) 24 days (d) 32 days
49. A and B can do a piece of work in 5 days and 10 days, respectively. They began the work together but A left after some days and B finished the remaining work in 8 days. After how many days did A leave?
    (a) $3\frac{1}{8}$ (b) $5\frac{1}{8}$ (c) $6\frac{1}{8}$ (d) $\frac{2}{3}$
50. X takes 4 days to complete one-third of a job; Y takes 3 days to complete one-sixth of the same work and Z takes 5 days to complete half the job. If all of them work together for 3 days and X and Z quit, how long will it take for Y to complete the remaining work done?
    (a) 6 days (b) 8.1 days (c) 5.1 days (d) 7 days