

Arithmetic (Level 2)**MCQ Test, Set 04**

Time: 30 minutes

Maximum marks: 25

Name: _____ Class: _____ Date: _____

1. There are 25 questions. Each has exactly one correct answer: choose A, B, C or D.
2. Each correct answer carries 1 mark. There is no negative marking.
3. The key sheet and worked solutions are at the end of this test.

1. A can finish a piece of work in 60 days. What part of the work does A finish in 18 days?
A. $\frac{1}{60}$ **B.** $\frac{7}{10}$ **C.** $\frac{3}{10}$ **D.** $\frac{10}{3}$
2. If the number of men to do a work is changed in the ratio 3 : 7, the time taken by them to finish the work changes in the ratio
A. 49 : 9 **B.** 9 : 49 **C.** 3 : 7 **D.** 7 : 3
3. A can do a piece of work in 6 days and B alone can do it in 8 days. How much time will both take to finish the work?
A. 7 days **B.** 14 days **C.** $3\frac{3}{7}$ days **D.** 2 days
4. A and B together can do a piece of work in 36 days. B alone can finish it in 52 days. In how many days can A alone finish the work?
A. 16 days **B.** $21\frac{3}{11}$ days **C.** 44 days **D.** 117 days
5. A, B and C together can finish a piece of work in 26 days. A and B together can finish it in 39 days. In how many days can C alone finish it?
A. $32\frac{1}{2}$ days **B.** 78 days **C.** 13 days **D.** $15\frac{3}{5}$ days
6. A can do a piece of work in 48 days and B can finish it in 60 days. They work together for 10 days and then B goes away. In how many days will A finish the remaining work?
A. $37\frac{1}{2}$ days **B.** 38 days **C.** $46\frac{1}{5}$ days **D.** 30 days
7. A can do a piece of work in 13 days and B in 26 days. They work together for 7 days. The rest of the work is finished by C in 6 days. If they get ₹1560 for the whole work, what is C's daily wage?
A. ₹50 **B.** ₹120 **C.** ₹300 **D.** ₹60
8. A is thrice as good a workman as B and is therefore able to finish a piece of work in 34 days less than B. How many days does A take to finish it alone?
A. 51 days **B.** 102 days **C.** $11\frac{1}{3}$ days **D.** 17 days
9. A can do a piece of work in 9 days, B in 12 days and C in 36 days. All begin together, but A leaves the work after 1 day and B leaves 4 days before the work is finished. How long did the work last?
A. 11 days **B.** 6 days **C.** 15 days **D.** 7 days

10. A can do a piece of work in 120 days and B can do it in 240 days. They work together for 12 days. Then B leaves and A alone continues the work. 27 days after that, C joins A and the work is completed in 35 days more. In how many days can C do the work alone?
- A. 225 days B. 70 days C. 56 days D. 105 days
-
11. A and B together can do a piece of work in 30 days. B and C together can do it in 45 days. If A is twice as good a workman as C, C alone can do it in
- A. 15 days B. 90 days C. 45 days D. 180 days
-
12. A and B working alone can finish a piece of work in 6 and 10 days respectively. If they work at it alternately for a day, A beginning, in how many days will the work be finished?
- A. $7\frac{1}{3}$ days B. $3\frac{3}{4}$ days C. 8 days D. $7\frac{1}{2}$ days
-
13. A certain number of men complete a piece of work in 78 days. If there were 5 men more, the work could be finished in 10 days less. How many men were there originally?
- A. 39 B. 34 C. 29 D. 44
-
14. If 3 men or 9 boys can finish a piece of work in 8 days, in how many days can 5 men and 3 boys finish it?
- A. 16 days B. 4 days C. 9 days D. $15\frac{3}{7}$ days
-
15. 4 men and 4 women working 9 hours a day finish a piece of work in 6 days; 3 men and 2 women working 9 hours a day do the same work in 9 days. Find the number of days in which the work is done by 9 men only, working 4 hours a day.
- A. 4 days B. 12 days C. 18 days D. 9 days
-
16. If 6 men with 2 boys can earn ₹5520 in 8 days and 12 men with 11 boys can earn ₹4455 in 3 days, how much does 1 man earn in a day?
- A. ₹125 B. ₹115 C. ₹110 D. ₹15
-
17. 36 men are employed to do a piece of work which they could finish in 12 days, but the men drop off by 3 at the end of every 6 days. In what time will the work be completed?
- A. 18 days B. $13\frac{1}{11}$ days C. $12\frac{3}{5}$ days D. 12 days
-
18. A can do half as much again as B can do in the same time. A alone can do a piece of work in 44 days. In how many days can B alone finish it?
- A. 66 days B. 88 days C. $29\frac{1}{3}$ days D. 22 days
-
19. A man rows in still water at 12.5 km/hr and the rate of the current is 1 km/hr. The man's rate with the current is
- A. 13.5 km/hr B. 11.5 km/hr C. 12.5 km/hr D. 5.75 km/hr
-
20. A man rows upstream 33 km and downstream 36 km, taking 6 hours each time. The velocity of the current is
- A. 1.5 km/hr B. 0.25 km/hr C. 0.5 km/hr D. 5.75 km/hr
-

21. A boat goes 58 km downstream in 5 hours. Its speed downstream is
A. 11.6 km/hr **B.** 53 km/hr **C.** 290 km/hr **D.** 14.5 km/hr
-
22. A man can row 15 km/hr in still water and he finds that it takes him thrice as long to row up as to row down the river. The rate of the stream is
A. 5 km/hr **B.** 3.75 km/hr **C.** 7.5 km/hr **D.** 11.25 km/hr
-
23. A man can row 6 km/hr in still water. If the river is running at 3 km/hr, it takes him 2 hours to row to a place and back. The place is at a distance of
A. 9 km **B.** 4.5 km **C.** 6 km **D.** 5.5 km
-
24. The current of a stream runs at the rate of 5 km/hr. A motor boat goes 5 km upstream and back again to the starting point in 45 minutes. The speed of the motor boat in still water is
A. 20 km/hr **B.** 10 km/hr **C.** 25 km/hr **D.** 15 km/hr
-
25. A man can row 12 km upstream and 35 km downstream in 11 hours, while he can row 18 km upstream and 15 km downstream in 9 hours. The speed of the man in still water is
A. 3 km/hr **B.** 1 km/hr **C.** 4 km/hr **D.** 5 km/hr
-

Key sheet

1. C	2. D	3. C	4. D	5. B
6. D	7. A	8. D	9. A	10. D
11. B	12. A	13. B	14. B	15. D
16. C	17. C	18. A	19. A	20. B
21. A	22. C	23. B	24. D	25. C

Solutions

1. A can finish a piece of work in 60 days. What part of the work does A finish in 18 days?

$$\text{A's 1 day's work} = \frac{1}{60}$$

$$\text{A's 18 days' work} = 18 \times \frac{1}{60} = \frac{18}{60} = \frac{3}{10}$$

Ans: (C) $\frac{3}{10}$

2. If the number of men to do a work is changed in the ratio 3 : 7, the time taken by them to finish the work changes in the ratio

$$\text{No. of men} \propto \frac{1}{\text{Time taken}}$$

$$\frac{T_1}{T_2} = \frac{M_2}{M_1} = \frac{7}{3}$$

$$\therefore T_1 : T_2 = 7 : 3$$

Ans: (D) 7 : 3

3. A can do a piece of work in 6 days and B alone can do it in 8 days. How much time will both take to finish the work?

$$\text{A's 1 day's work} = \frac{1}{6}$$

$$\text{B's 1 day's work} = \frac{1}{8}$$

$$\therefore (\text{A} + \text{B})\text{'s 1 day's work} = \frac{1}{6} + \frac{1}{8} = \frac{4+3}{24} = \frac{7}{24}$$

$$\therefore \text{Both together can finish the work in } \frac{24}{7} \text{ days} = 3\frac{3}{7} \text{ days}$$

Ans: (C) $3\frac{3}{7}$ days

4. A and B together can do a piece of work in 36 days. B alone can finish it in 52 days. In how many days can A alone finish the work?

$$(\text{A} + \text{B})\text{'s 1 day's work} = \frac{1}{36}$$

$$\text{B's 1 day's work} = \frac{1}{52}$$

$$\Rightarrow \text{A's 1 day's work} = \frac{1}{36} - \frac{1}{52} = \frac{13-9}{468} = \frac{4}{468} = \frac{1}{117}$$

$$\therefore \text{A alone can finish the work in 117 days.}$$

Ans: (D) 117 days

5. A, B and C together can finish a piece of work in 26 days. A and B together can finish it in 39 days. In how many days can C alone finish it?

$$(\text{A} + \text{B} + \text{C})\text{'s 1 day's work} = \frac{1}{26}$$

$$(\text{A} + \text{B})\text{'s 1 day's work} = \frac{1}{39}$$

$$\text{C's 1 day's work} = (\text{A} + \text{B} + \text{C})\text{'s 1 day's work} - (\text{A} + \text{B})\text{'s 1 day's work}$$

$$= \frac{1}{26} - \frac{1}{39} = \frac{3-2}{78} = \frac{1}{78}$$

$$\therefore \text{C alone can finish the work in 78 days}$$

Ans: (B) 78 days

6. A can do a piece of work in 48 days and B can finish it in 60 days. They work together for 10 days and then B goes away. In how many days will A finish the remaining work?

$$\text{A's 1 day's work} = \frac{1}{48}$$

$$\text{B's 1 day's work} = \frac{1}{60}$$

$$(\text{A} + \text{B})\text{'s 1 day's work} = \frac{1}{48} + \frac{1}{60} = \frac{5+4}{240} = \frac{9}{240} = \frac{3}{80}$$

$$(\text{A} + \text{B})\text{'s 10 days' work} = 10 \times \frac{3}{80} = \frac{3}{8}$$

$$\text{Remaining work} = 1 - \frac{3}{8} = \frac{5}{8}$$

$$\text{This work is done by A in } \frac{5}{8} \times 48 = 30 \text{ days}$$

Ans: (D) 30 days

7. A can do a piece of work in 13 days and B in 26 days. They work together for 7 days. The rest of the work is finished by C in 6 days. If they get ₹1560 for the whole work, what is C's daily wage?

$$\text{A's 1 day's work} = \frac{1}{13}, \text{ B's 1 day's work} = \frac{1}{26}$$

$$(\text{A} + \text{B})\text{'s 1 day's work} = \frac{1}{13} + \frac{1}{26} = \frac{2+1}{26} = \frac{3}{26}$$

$$(\text{A} + \text{B})\text{'s 7 days' work} = \frac{21}{26}$$

$$\text{Remaining work} = 1 - \frac{21}{26} = \frac{5}{26}, \text{ done by C in 6 days}$$

$$\text{A's 7 days' work} = \frac{7}{13}, \text{ B's 7 days' work} = \frac{7}{26}, \text{ C's 6 days' work} = \frac{5}{26}$$

$$\text{Consider } \frac{7}{13} : \frac{7}{26} : \frac{5}{26} = 14 : 7 : 5$$

$$\text{A's share} = 14 \times \frac{1560}{26} = 840, \text{ i.e. ₹840}$$

$$\text{B's share} = 7 \times \frac{1560}{26} = 420, \text{ i.e. ₹420}$$

$$\text{C's share} = 5 \times \frac{1560}{26} = 300, \text{ i.e. ₹300}$$

$$\text{C's daily wage} = \frac{300}{6} = 50, \text{ i.e. ₹50}$$

Ans: (A) ₹50

8. A is thrice as good a workman as B and is therefore able to finish a piece of work in 34 days less than B. How many days does A take to finish it alone?

Suppose B finishes the work in x days

$\Rightarrow$ A is able to finish it in $(x - 34)$ days

Time taken by A = $\frac{1}{3}$ (Time taken by B)

$$\therefore x - 34 = \frac{1}{3}x$$

$$\Rightarrow 3x - 102 = x \Rightarrow 2x = 102 \Rightarrow x = 51$$

$\therefore$ Time taken by B = 51 days, time taken by A = 17 days

Ans: (D) 17 days

9. A can do a piece of work in 9 days, B in 12 days and C in 36 days. All begin together, but A leaves the work after 1 day and B leaves 4 days before the work is finished. How long did the work last?

$$\text{A's 1 day's work} = \frac{1}{9}, \text{ B's} = \frac{1}{12}, \text{ C's} = \frac{1}{36}$$

A, B, C together work for 1 day; C alone works for the last 4 days; B and C work together in between.

$$(\text{A} + \text{B} + \text{C})\text{'s 1 day's work} = \frac{1}{9} + \frac{1}{12} + \frac{1}{36} = \frac{4+3+1}{36} = \frac{8}{36} = \frac{2}{9}$$

$$\text{C's 4 days' work} = 4 \times \frac{1}{36} = \frac{1}{9}$$

$$\text{Remaining work} = 1 - \left(\frac{2}{9} + \frac{1}{9}\right) = \frac{2}{3}$$

$$(\text{B} + \text{C})\text{'s 1 day's work} = \frac{1}{12} + \frac{1}{36} = \frac{3+1}{36} = \frac{4}{36} = \frac{1}{9}$$

$$\text{Remaining work is done by (B + C) in } \frac{2}{3} \div \frac{1}{9} = 6 \text{ days}$$

$$\text{Total time} = 1 + 6 + 4 = 11 \text{ days}$$

Ans: (A) 11 days

10. A can do a piece of work in 120 days and B can do it in 240 days. They work together for 12 days. Then B leaves and A alone continues the work. 27 days after that, C joins A and the work is completed in 35 days more. In how many days can C do the work alone?

$$\text{A's 1 day's work} = \frac{1}{120}, \text{ B's 1 day's work} = \frac{1}{240}$$

$$(\text{A} + \text{B})\text{'s 1 day's work} = \frac{1}{120} + \frac{1}{240} = \frac{2+1}{240} = \frac{3}{240} = \frac{1}{80}$$

$$(\text{A} + \text{B})\text{'s 12 days' work} = 12 \times \frac{1}{80} = \frac{3}{20}$$

$$\text{A's 27 days' work} = \frac{27}{120} = \frac{9}{40}$$

$$(\text{A} + \text{C})\text{'s 35 days' work} = 1 - \left(\frac{3}{20} + \frac{9}{40}\right) = \frac{5}{8}$$

$$\Rightarrow (\text{A} + \text{C})\text{'s 1 day's work} = \frac{5}{8} \div 35 = \frac{1}{56}$$

$$\text{C's 1 day's work} = \frac{1}{56} - \frac{1}{120} = \frac{15-7}{840} = \frac{8}{840} = \frac{1}{105}$$

C can finish the work in 105 days

Ans: (D) 105 days

11. A and B together can do a piece of work in 30 days. B and C together can do it in 45 days. If A is twice as good a workman as C, C alone can do it in

$$(\text{A} + \text{B})\text{'s 1 day's work} = \frac{1}{30}, (\text{B} + \text{C})\text{'s 1 day's work} = \frac{1}{45}$$

$$\text{A's 1 day's work} = \text{C's 2 days' work}$$

$$\text{C's 2 days' work} + \text{B's 1 day's work} = \frac{1}{30}$$

$$\Rightarrow \text{C's 1 day's work} + (\text{B} + \text{C})\text{'s 1 day's work} = \frac{1}{30}$$

$$\Rightarrow \text{C's 1 day's work} + \frac{1}{45} = \frac{1}{30}$$

$$\text{C's 1 day's work} = \frac{1}{30} - \frac{1}{45} = \frac{3-2}{90} = \frac{1}{90}$$

$\therefore$ C alone can finish it in 90 days

Ans: (B) 90 days

12. A and B working alone can finish a piece of work in 6 and 10 days respectively. If they work at it alternately for a day, A beginning, in how many days will the work be finished?

$$\text{A's 1 day's work} = \frac{1}{6}, \text{ B's 1 day's work} = \frac{1}{10}$$

$$\text{Work done in the first 2 days} = \frac{1}{6} + \frac{1}{10} = \frac{5+3}{30} = \frac{8}{30} = \frac{4}{15}$$

$$\text{Work done in the first 6 days} = 3 \times \frac{4}{15} = \frac{4}{5}$$

$$\text{On day 7 it is A's turn: work done in the first 7 days} = \frac{4}{5} + \frac{1}{6} = \frac{29}{30}$$

$$\text{Remaining work} = 1 - \frac{29}{30} = \frac{1}{30}$$

$$\text{B does it in } \frac{1}{30} \div \frac{1}{10} = \frac{1}{3} \text{ day}$$

$$\therefore \text{Total no. of days} = 7 + \frac{1}{3} = 7\frac{1}{3} \text{ days}$$

Ans: (A) $7\frac{1}{3}$ days

13. A certain number of men complete a piece of work in 78 days. If there were 5 men more, the work could be finished in 10 days less. How many men were there originally?

Let the original number of men be x

$$\text{No. of men} \propto \frac{1}{\text{No. of days}}$$

$$x \times 78 = (x + 5) \times 68$$

$$78x = 68x + 340$$

$$10x = 340 \Rightarrow x = 34$$

Ans: (B) 34

14. If 3 men or 9 boys can finish a piece of work in 8 days, in how many days can 5 men and 3 boys finish it?

$$3 \text{ men} = 9 \text{ boys}$$

$$5 \text{ men} = \frac{9}{3} \times 5 = 15 \text{ boys}$$

$$5 \text{ men} + 3 \text{ boys} = 15 \text{ boys} + 3 \text{ boys} = 18 \text{ boys}$$

$$\text{No. of boys} \propto \frac{1}{\text{No. of days}}$$

$$9 \times 8 = 18 \times x \Rightarrow x = 4 \text{ days}$$

Ans: (B) 4 days

15. 4 men and 4 women working 9 hours a day finish a piece of work in 6 days; 3 men and 2 women working 9 hours a day do the same work in 9 days. Find the number of days in which the work is done by 9 men only, working 4 hours a day.

Let 1 man do m and 1 woman do w units of work in 1 hour.

$$\text{Case (i): } (4m + 4w) \times 9 \times 6 = 216m + 216w$$

$$\text{Case (ii): } (3m + 2w) \times 9 \times 9 = 243m + 162w$$

$$\text{Same work: } 216m + 216w = 243m + 162w$$

$$\Rightarrow 54w = 27m \Rightarrow 2w = m$$

$$\text{So 4 women} = 2 \text{ men, and } 4m + 4w = 6 \text{ men}$$

$$6 \text{ men working 9 hours a day for 6 days do the same work as 9 men working 4 hours a day for } x \text{ days}$$

$$6 \times 9 \times 6 = 9 \times 4 \times x \Rightarrow x = 9 \text{ days}$$

Ans: (D) 9 days

16. If 6 men with 2 boys can earn ₹5520 in 8 days and 12 men with 11 boys can earn ₹4455 in 3 days, how much does 1 man earn in a day?

Let 1 man earn ₹ x and 1 boy earn ₹ y in 1 day.

$$(6x + 2y) \times 8 = 5520 \Rightarrow 6x + 2y = 690 \quad \dots (1)$$

$$(12x + 11y) \times 3 = 4455 \Rightarrow 12x + 11y = 1485 \quad \dots (2)$$

$$(1) \times 2 \Rightarrow 12x + 4y = 1380$$

$$(2) - (1) \times 2 \Rightarrow 7y = 105 \Rightarrow y = 15$$

$$\text{From (1): } 6x = 690 - 30 = 660 \Rightarrow x = 110$$

Ans: (C) ₹110

17. 36 men are employed to do a piece of work which they could finish in 12 days, but the men drop off by 3 at the end of every 6 days. In what time will the work be completed?

$$\text{Work done by 36 men in 6 days} = 6 \times \frac{1}{12} = \frac{1}{2}$$

$$\text{So 1 man's work in 6 days} = \frac{1}{2} \div 36 = \frac{1}{72}$$

$$\text{Remaining work} = \frac{1}{2}, \text{ remaining men} = 33; \text{ work done by 33 men in 6 days} = 33 \times \frac{1}{72} = \frac{11}{24}$$

$$\text{Remaining work} = \frac{1}{24}, \text{ remaining men} = 30; \text{ work done by 30 men in 6 days} = \frac{5}{12}$$

$$\frac{1}{24} \text{ work is done by 30 men in } \frac{1}{24} \div \frac{5}{12} \times 6 = \frac{3}{5} \text{ days}$$

$$\text{Total time} = 6 + 6 + \frac{3}{5} = 12\frac{3}{5} \text{ days}$$

Ans: (C) $12\frac{3}{5}$ days

18. A can do half as much again as B can do in the same time. A alone can do a piece of work in 44 days. In how many days can B alone finish it?

$$\text{If B does } x, \text{ A does } \frac{x}{2} + x = \frac{3x}{2} \text{ in the same time}$$

$$\text{Ratio of working of A and B} = \frac{3}{2} : 1 = 3 : 2$$

$$\text{Ratio of time taken for the same work} = 2 : 3$$

$$\text{Time taken by A} = 2k = 44 \Rightarrow k = 22$$

$$\text{Time taken by B} = 3k = 66 \text{ days}$$

Ans: (A) 66 days

19. A man rows in still water at 12.5 km/hr and the rate of the current is 1 km/hr. The man's rate with the current is

$$\text{Speed downstream} = (x + y) \text{ km/hr}$$

$$= 12.5 + 1 = 13.5 \text{ km/hr}$$

Ans: (A) 13.5 km/hr

20. A man rows upstream 33 km and downstream 36 km, taking 6 hours each time. The velocity of the current is

$$\text{Speed downstream: } x + y = \frac{36}{6} \text{ km/hr}$$

$$\text{Speed upstream: } x - y = \frac{33}{6} \text{ km/hr}$$

$$\text{Subtracting, } 2y = \frac{36}{6} - \frac{33}{6} = \frac{3}{6}$$

$$y = \frac{3}{12} = 0.25 \text{ km/hr}$$

Ans: (B) 0.25 km/hr

21. A boat goes 58 km downstream in 5 hours. Its speed downstream is

$$\begin{aligned}\text{Speed} &= \frac{\text{Distance}}{\text{Time}} \\ &= \frac{58}{5} = 11.6 \text{ km/hr}\end{aligned}$$

Ans: (A) 11.6 km/hr

22. A man can row 15 km/hr in still water and he finds that it takes him thrice as long to row up as to row down the river. The rate of the stream is

Let the rate of the stream be y km/hr

Same distance, thrice the time, so speed down = $3 \times$ speed up

$$\text{Given } 3(15 - y) = 15 + y$$

$$\Rightarrow 45 - 3y = 15 + y \Rightarrow 4y = 30$$

$$\Rightarrow y = 7.5 \text{ km/hr}$$

Ans: (C) 7.5 km/hr

23. A man can row 6 km/hr in still water. If the river is running at 3 km/hr, it takes him 2 hours to row to a place and back. The place is at a distance of

Let the required distance be d km

$$\text{Speed downstream} = 6 + 3 = 9 \text{ km/hr}$$

$$\text{Speed upstream} = 6 - 3 = 3 \text{ km/hr}$$

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}, \text{ so } \frac{d}{9} + \frac{d}{3} = 2$$

$$\Rightarrow d \left(\frac{1}{9} + \frac{1}{3} \right) = 2$$

$$\Rightarrow d \times \frac{4}{9} = 2$$

$$\Rightarrow d = 4.5 \text{ km}$$

Ans: (B) 4.5 km

24. The current of a stream runs at the rate of 5 km/hr. A motor boat goes 5 km upstream and back again to the starting point in 45 minutes. The speed of the motor boat in still water is

Let the speed of the boat in still water be x km/hr

$$\text{Speed upstream} = (x - 5) \text{ km/hr, speed downstream} = (x + 5) \text{ km/hr}$$

$$\text{Total time} = 45 \text{ min} = \frac{45}{60} \text{ hr} = \frac{3}{4} \text{ hr}$$

$$\frac{5}{x-5} + \frac{5}{x+5} = \frac{3}{4}$$

$$\Rightarrow 5 \left(\frac{(x+5) + (x-5)}{(x-5)(x+5)} \right) = \frac{3}{4}$$

$$\Rightarrow \frac{10x}{x^2-25} = \frac{3}{4}$$

$$\Rightarrow 40x = 3x^2 - 75$$

$$\Rightarrow 3x^2 - 40x - 75 = 0$$

$$\Rightarrow (x - 15)(3x + 5) = 0$$

$$\Rightarrow x = 15 \text{ (or) } x = -\frac{5}{3} \text{ (rejected, a speed cannot be negative)}$$

$\therefore$ Speed of the boat in still water = 15 km/hr

Ans: (D) 15 km/hr

25. A man can row 12 km upstream and 35 km downstream in 11 hours, while he can row 18 km upstream and 15 km downstream in 9 hours. The speed of the man in still water is

Let the speed of the man in still water be x km/hr and the rate of the current y km/hr.

Speed upstream = $(x - y)$ km/hr, speed downstream = $(x + y)$ km/hr. Put $p = \frac{1}{x-y}$, $q = \frac{1}{x+y}$

$$\frac{12}{x-y} + \frac{35}{x+y} = 11 \Rightarrow 12p + 35q = 11 \quad \dots (1)$$

$$\frac{18}{x-y} + \frac{15}{x+y} = 9 \Rightarrow 18p + 15q = 9 \quad \dots (2)$$

$$(1) \times 3 \Rightarrow 36p + 105q = 33; (2) \times 2 \Rightarrow 36p + 30q = 18$$

$$(1) \times 3 - (2) \times 2 \Rightarrow 75q = 15 \Rightarrow q = \frac{1}{5}$$

$$\text{From (1): } 12p + 7 = 11 \Rightarrow 12p = 4 \Rightarrow p = \frac{1}{3}$$

$$\text{So } x - y = 3 \text{ and } x + y = 5$$

$$\text{Adding, } 2x = 8 \Rightarrow x = 4; \text{ then } y = 5 - 4 = 1$$

Ans: (C) 4 km/hr
