

Board – CBSE

Class – 8th

Topic – Direct and Inverse Proportion

- Q.1** A does a work in 10 days and B does the same work in 15 days. In how many days they together will do the same work?
- (A) 5 days (B) 6 days
- (C) 8 days (D) 9 days
- Q.2** A can finish a work in 18 days and B can do the same work in half the time taken by A. Then, working together, what part of the same work they can finish in a day?
- (A) $\frac{1}{6}$ (B) $\frac{2}{9}$
- (C) $\frac{1}{9}$ (D) $\frac{2}{7}$
- Q.3** A tyre has two punctures. The first puncture alone would have made the tyre flat in 9 minutes and the second alone would have done it in 6 minutes. If air leaks out at a constant rate, how long does it take both the punctures together to make it flat?
- (A) $1\frac{1}{2}$ minutes (B) $3\frac{1}{2}$ minutes
- (C) $3\frac{3}{5}$ minutes (D) $4\frac{1}{4}$ minutes
- Q.4** A family has enough rice for 8 members for 30 days. Find the number of days the rice will last if the members increased to 10.
- Q.5** 125 people finish a piece of work in 120 days. Find the number of people required to finish the same work in 100 days.
- Q.6** Three taps take 6 hours, 8 hours and 12 hours respectively to fill a tank. How long will it take for all three taps together to fill the tank?
- Q.7** 16 men can do a piece of work in 7 days. How long will it take 14 men to do the same work?

- Q.8** A restaurant has food stock to supply food for 900 people for 40 days. If only 600 people visited the restaurant, how long will the food last?
- Q.9** If apples are sold at $\text{₹} 5$ each, Sushma can buy 2 dozen apples with the money in her purse. How much will she buy if the cost is increased by $\text{₹} 1$ each?
- Q.10** 8 horses consume a certain quantity of grains in 50 days. How long will the grains last if the number of horses is increased to 20?
- Q.11** A school has enough food for 400 children for 12 days. How long will the food last for 80 more children?
- Q.12** Ramesh pours 10^5 granules of sand per second in a bottle and it takes him 320 days to fill it. How many days will it take to fill that bottle if he pours 10^6 granules per second?
- Q.13** Fill in the tables

(a)

x (number of men)	2	3	---	16	48
Y (time taken)	24	---	8	---	---

(b)

x (men)	8	2	18	9	---	---
y (days)	9	---	---	---	12	1

(c)

x (men)	12	---	28	---	6
y (time)	7	4	---	42	---

- Q.14** A tank can be filled by two pipes A and B in 12 hours and 16 hours, respectively. While pipe C empties it in 8 hours, find the time taken to empty the tank if all three pipes are open (emptying implies negative).
- Q.15** 2 men working together take 6 days to finish a piece of work. If one of them takes 15 days if he works alone, find how long the second man will take to finish it, working alone?
- Q.16** If 12 boys earn $\text{₹} 840$ in 7 days, what will 15 boys earn in 6 days?
- Q.17** If 25 men earn $\text{₹} 1000$ in 10 days, how much will 15 men earn in 15 days?
- Q.18** Find the time taken by a train of length 200 m at 60 kmph to cross a lamp post.

- Q.19** A car moving from city A to city B takes $8\frac{1}{2}$ hours. If the distance between the cities is 425 km, find the speed of the car.
- Q.20** What is the distance covered by a car at 73 kmph in $5\frac{1}{2}$ hours?
- Q.21** Suresh cycles at 30 kmph to reach a destination 285 km away. What is the time taken by him?
- Q.22** Two cars start from the same point at speeds 60 km/h and 50 km/h. The slower car starts half an hour earlier. When will the other car catch up with the slower car?
- Q.23** Two trains start from the same station in the same direction but with a gap of one hour. The earlier train travels at 80 km/h while the second train travels at 95 km/h. When will the second train overtake the first?
- Q.24** How long will a train 600 m long take to cross a pole, if it travels at 45 kmph?
- Q.25** How long will a train 650 m long take to cross a bridge 350 m long, if it travels at a speed of 54 kmph?
- Q.26** A train 450 m long crosses a bridge in 72 seconds travelling at 60 kmph. Find the length of the bridge.
- Q.27** A 300 m long train is travelling at 85 km/h. A man is running in the same direction at 5 km/h. How long will it take the train to cross the man?
- Q.13** A train 750 m long travelling at 45 km/h takes 72 seconds to cross another train travelling in the opposite direction at 52 km/h. Find the length of the second train.
- Q.14** Two trains of length 220 m and 100 m are travelling on parallel lines in the same direction with speeds 46 km/h and 36 km/h. How long will it take the faster train to overtake the slower train? How long will it take if the trains were moving in the opposite directions?
- Q.15** A car takes 9 hours to cover a distance from X to Y travelling at 40 km per hour. Find the time taken if its speed is increased by 20 km per hour.

ANSWER

1. 6 days 2. $\frac{1}{6}$ 3. $3\frac{3}{5}$ minutes 4. 24 days 5. 150 people
6. $\frac{8}{3}$ hours 7. 8 days 8. 60 days 9. 20 apples 10. 20 days
11. 10 days 12. 32 days 13. (a) 16, 6, 3, 1 (b) 36, 4, 8, 6, 72
(c) 21, 3, 2, 14
14. 48 hrs 15. 10 days 16. ₹ 900 17. ₹ 900 18. 12 sec
19. 50 km/h 20. 401.5 km 21. 9.5 h 22. $2\frac{1}{2}$ hr 23. $\frac{16}{3}$ hrs
24. 48 sec 25. 1 min 7 sec (approx) 26. 750 m 27. $\frac{27}{2}$ sec 28. 1190 m
29. 115.2 sec, 14.048 sec 30. 6 hr