EXERCISE # 1

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) $\dfrac{1}{6}$ (B) $\dfrac{2}{9}$

(C) $\dfrac{1}{9}$ (D) $\dfrac{2}{7}$

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 if flat ?

(A) $1\dfrac{1}{2}$ minutes   (B) $3\dfrac{1}{2}$ minutes

(C) $3\dfrac{3}{5}$ minutes   (D) $4\dfrac{1}{4}$ 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 ₹ 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 ₹ 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 A and B take 12 days to finish a piece of work. If B and C work together they take 15 days. While A and C together take 20 days. Find the time taken by each to work alone.

Q.17 A contractor hires 120 men to complete a job in 6 months. How many men should he hire if he has to complete the job in 4 months ?

Q.18 A and B together can write a manuscript in 20 days. If A takes 25 days when working along, find the time taken by B working alone.

Q.19 30 men can harvest a field in 14 days. Find the time taken by 20 men for the same job.

Q.20 Meeta. Veena and Kamlesh can sweep a playground in 4, 6 and 8 hours respectively. What portion of that ground can they sweep in one hour working together ?

Q.21 If 20 men working 12 hours a day can do binding of 2500 books in a day, how many books can 24 men bind in a day if each of them work 8 hours a day ?

Q.22 4 men and 7 boys can dig a tank in 15 days. How long would 2 men and 4 boys working together take to dig the tank.

Q.23 A can do a piece of work in 25 days, B can finish it in 20 days. They work together for 5 days and then A goes away. In how many days will B finish the remaining work ?

Q.24 6 men can complete the electric fitting of a building in 7 days. How many days will it take if 21 men do the job ?

Q.25 A cistern can be filled by one tap in 8 hours and by another in 4 hours. How long will it take to fill the cistern if both taps are opened together ?

ANSWER KEY

EXERCISE # 1

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.** A = 30 days, B = 20 days, C = 60 days		**17.** 180 men
18. 100 days	**19.** 21 days	**20.** $\frac{13}{24}$ th portion	**21.** 2000 books	**22.** 52.5 days
23. 11 days	**24.** 2 days	**25.** $\frac{8}{3}$ hrs		

EXERCISE # 2

Q.1 If 12 boys earn ₹ 840 in 7 days, what will 15 boys earn in 6 days ?

Q.2 If 25 men earn ₹ 1000 in 10 days, how much will 15 men earn in 15 days ?

Q.3 Find the time taken by a train of length 200 m at 60 kmph to cross a lamp post.

Q.4 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.5 What is the distance covered by a car at 73 kmph in $5\frac{1}{2}$ hours ?

Q.6 Suresh cycles at 30 kmph to reach a destination 285 km away. What is the time taken by him ?

Q.7 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.8 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.9 How long will a train 600 m long take to cross a pole, if it travels at 45 kmph ?

Q.10 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.11 A train 450 m long crosses a bridge in 72 seconds travelling at 60 kmph. Find the length of the bridge.

Q.12 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.

Q.16 A plane takes $1\frac{2}{3}$ hours to cover a distance flying at 340 km per hour. Find the time taken if the speed is increased to 850 km per hour.

ANSWER KEY

EXERCISE # 2

1. ₹ 900 **2.** ₹ 900 **3.** 12 sec **4.** 50 km/h **5.** 401.5 km

6. 9.5 h **7.** $2\frac{1}{2}$ hr **8.** $\frac{16}{3}$ hrs **9.** 48 sec **10.** 1 min 7 sec (approx)

11. 750 m **12.** $\frac{27}{2}$ sec **13.** 1190 m **14.** 115.2 sec, 14.048 sec

15. 6 hr **16.** $\frac{2}{3}$ hr