TIME AND WORK
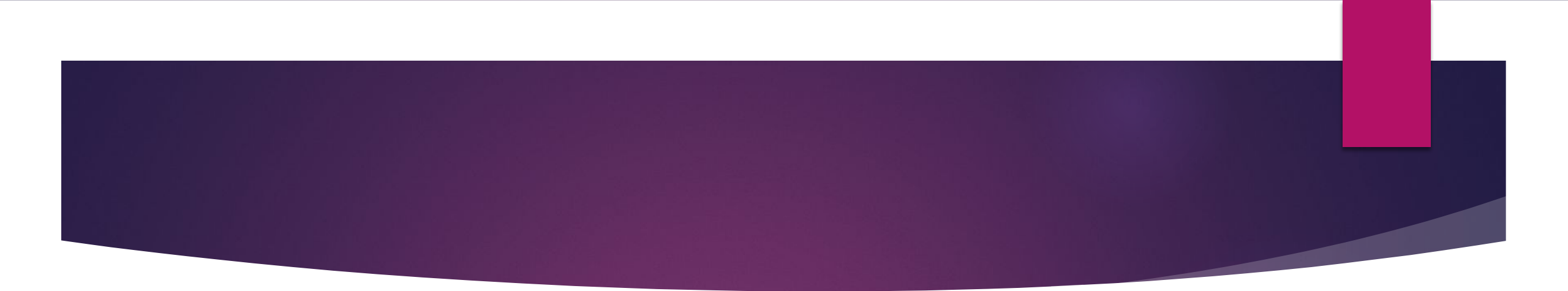
- In solving the problems based on time and work, we need to calculate the following parameters.

- Time :- Time taken to complete an assigned job.

- Individual time :- Time needed by single person to complete a job.

- Work:- It is the amount of work done actually.

- If a man can do a piece of work in 5 days, then he will finish 1/5th of the work in one day.

- If a man can finish 1/5th of the work in one day then he will take 5 days to complete the work.

- If a man 5/6th of work in one hour then he will take 6/5 hours to complete the full work.

- If A works three times faster than B then A takes 1/3rd the time taken by B.

- If the persons has efficiency of E1 and E2 respectively then,

- P1D1T1E1= P2D2T2E2

- Where P – no. of persons

- D—No. of days

- E—Efficiency (Unit time work)

- T---No. of hours

► **TYPE 1**

► **Q1**. 4 men can complete a work in 15 days, how much time will it take by 5 men.

► **Q2.** 10 men working 5 hours per day can complete a work in 15 days. How many men will be required to complete twice the initial work working 7.5 hours per day to complete the work in 10 days?

► **Q3.** 45 men can complete a work in 16 days. Six days after they started working, 30 more men joined them.How many days will they now take to complete the remaining work?

► **TYPE 2**

► **Q1**.10 men and 15 women can complete a work in 20 days and 4 men and 12 women can complete it in 30 days. How many days will it take to complete the same work by 5 men and 12 women?

► **Q2.**10 men, 15 women and 20 boys can complete a work in 30 days, 5 men 10 women and 15 boys can complete the same work in 45 days. If 1 man does the same work in same time as 3 women can do then.How many days will it take to complete the same work by 4 men, 6 women and 4 boys.

► **TYPE 3**

► **Q1**.A contractor undertook a work to complete in 60 days. But just after 20 days he observed that only

► 1/5th of the project work had been completed. To complete the work in time (i.e., in rest days) minimum

► how many workers he had to increase, if there were initially 75 workers were deployed for the task?

► **Q2.**A contractor undertook to complete the work in 40 days and he deployed 20 men for his work. 8 days

► before the scheduled time he realized that 1/3rd of the work was still to be done. How many more men

► were required to complete the work in stipulated time?

- **TYPE-4**

- **Q1**.A and B can together complete a piece of work in 4 days. If A alone can complete the same work in 12

- days, in how many days can B alone complete that work?

- **Q2**.A can finish a work in 18 days and B can do same work in half the time taken by A. then working

- together, what part of same work they can finish in a day?

- **Q3**.A can do a job in 16 days, B can do same job in 12 days. With the help of C they did the job in 4 days. C

- alone can do the same job in how many days?

► **TYPE-5**

► **Q1**.A and B can together finish a work 30 days. They worked together for 20 days and then B left. After

► another 20 days, A finished the remaining work. In how many days A alone can finish the work?(60)

► **Q2.**X and Y can do a piece of work in 20 days and 12 days respectively. X started the work alone and then

► after 4 days Y joined him till the completion of the work. How long did the work last?

► **Q3**.A can do a work in 5 days and B can in 10 days. A starts the work and they decide to work alternatively.

► In how many days the work would get completed.

► **Q1**. Two pipes A and B can fill a tank in 36 hrs and 46 hrs respectively. If both the pipes are opened simultaneously, how much time will be taken to fill the tank?

► **Q2**. Two pipes can fill a tank in 10 hours and 12 hours respectively while a third, pipe empties the full tank in 20 hours. If all the three pipes operate simultaneously, in how much time will the tank be filled?

► **Q3**. If two pipes function simultaneously, the reservoir will be filled in 12 hours. One pipe fills the reservoir 10 hours faster than the other. How many hours does it take faster pipe to fill the reservoir?

► **Q4**.Two taps X and Y can fill a cistern in 32 and 40 min respectively. Both the taps are opened into the empty cisterns and after some time tap X is closed. Tap Y alone fills the remaining portion of the cistern. If it took 25 minutes to fill the tank, for how much time was tap X kept open?

Answers—

Type 1---12 ,20,6

Type 2---28.57,105

Type 3---75,20

Type 4---6 1/3, 9 3/5

Type 5---60,10,61/2

Type 6---20.19, 7 1/5, 20, 12