

# PIPE AND CISTERNS

1. A pipe can fill a cistern in 25 hours. Find the part of tank filled in 5 hours.  
(1)  $\frac{1}{25}$  (2)  $\frac{1}{5}$   
(3)  $\frac{1}{10}$  (4)  $\frac{1}{15}$   
(5) None of these
2. A pipe can empty a cistern in 27 hours. Find the time in which  $\frac{2}{3}$  part of the cistern will be emptied.  
(1) 19 hours (2) 12 hours  
(3) 15 hours (4) 18 hours  
(5) None of these
3. A water tank is  $\frac{2}{5}$  th full. Pipe A can fill the tank in 10 minutes and the pipe B can empty it in 6 minutes. If both the pipes are open, how long will it take to empty or fill the tank completely?  
(1) 6 minutes to empty  
(2) 6 minutes to fill  
(3) 9 minutes to empty  
(4) 9 minutes to fill  
(5) None of these
4. A cistern which could be filled in 9 hours takes one hour more to be filled owing to a leak in its bottom. If the cistern is full, in what time will the leak empty it?  
(1) 80 hours (2) 85 hours  
(3) 90 hours (4) 95 hours  
(5) None of these
5. A tap can fill a tank in 25 minutes and another can empty it in 50 minutes. If the tank is already half full and both the taps are opened together, the  
(1) tank is emptied in 20 minutes  
(2) tank is filled up in 25 minutes  
(3) tank is filled up in 20 minutes  
(4) tank is emptied in 25 minutes  
(5) None of these
6. A pipe can empty a tank in 15 hrs and another pipe can empty it in 10 hrs. If both the pipes are opened simultaneously, find the time in which a full tank is emptied.  
(1) 8 hours (2) 6 hours  
(3) 4 hours (4) 5 hours  
(5) None of these
7. Two pipes A and B can fill a tank in 30 minutes and 15 minutes respectively. If both the pipes are opened simultaneously, how much time will be taken to fill the tank?  
(1) 10 minutes (2) 12 minutes  
(3) 8 minutes (4) 9 minutes  
(5) None of these
8. There is a leak in the bottom of a cistern. When the cistern is thoroughly repaired, it would be filled in 12 minutes. It now takes 18 minutes longer. If the cistern is full, how long would the leak take to empty the cistern?  
(1) 20 minutes (2) 24 minutes  
(3) 26 minutes (4) 30 minutes  
(5) None of these

9. There is a leak in the bottom of a cistern. When the cistern is thoroughly repaired, it would be filled in 8 hours. It now takes 12 hours. If the cistern is full, how long would the leak take to empty the cistern?
- (1) 20 minutes (2) 24 minutes  
(3) 28 minutes (4) 32 minutes  
(5) None of these
10. Tap A can fill a water tank in 25 minutes, tap B can fill the same tank in 40 minutes and tap C can empty the tank in 30 minutes. If all the three taps are opened together, in how many minutes will the tank be completely filled up or emptied?
- (1)  $3\frac{2}{13}$  (2)  $15\frac{5}{13}$   
(3)  $8\frac{2}{13}$  (4)  $31\frac{11}{19}$   
(5) None of these
11. Two pipes A and B can fill a cistern in 12 minutes and 15 minutes respectively. There is also an outlet C. If all the three pipes are opened together, the tank is full in 10 minutes. How much time will be taken by C to empty the full tank?
- (1) 10 min  
(2) 20 min  
(3) 15 min  
(4) Data inadequate  
(5) None of these
12. Two pipes A and B can fill a cistern in 24 minutes and 30 minutes respectively. There is also an outlet C. If all the three pipes are opened together, the tank is full in 20 minutes. How much time will be taken by C to empty the full tank?
- (1) 30 min (2) 40 min  
(3) 45 min (4) 1 hour  
(5) None of these
13. Two pipes A and B can fill a tank in 12 minutes and 16 minutes respectively. If both the pipes are opened simultaneously, after how much time should B be closed so that the tank is full in 9 minutes?
- (1) 8 min (2) 6 min  
(3) 4 min (4) 10 min  
(5) None of these
14. Two pipes A and B can fill a tank in 36 minutes and 48 minutes respectively. If both the pipes are opened simultaneously, after how much time should B be closed so that is full in 27 minutes?
- (1) 10 min (2) 12 min  
(3) 14 min (4) 16 min  
(5) None of these
15. Two pipes A and B can separately fill in 15 and 10 minutes respectively and a waste pipe C can carry off 7 liters per minute. If all the pipes are opened when the cistern is full, it is emptied in 2 hours. How many litres does the cistern hold?
- (1) 40 litres (2) 20 litres  
(3) 25 litres (4) 30 litres  
(5) None of these
16. Two pipes A and B can separately fill in 30 and 20 minutes respectively and a waste pipe C can carry off 6 litres per minute. If all the pipes are opened when the cistern is full, it is emptied in 60 minutes. How many litres does the cistern hold?
- (1) 10 litres (2) 30 litres  
(3) 60 litres (4) 45 litres  
(5) None of these
17. Pipe A can fill a tank in 5 hours, pipe B in 10 hours and pipe C in 30 hours. If all the pipes are open, then the tank will be filled in
- (1) 12 hrs (2) 5 hrs  
(3) 3 hrs (4) 4 hrs  
(5) None of these

- 18.** A tank can be filled by a tap in 4 hours while it can be emptied by another tap in 9 hours. If both the taps are opened simultaneously, then after how much time will the cistern get filled?
- (1) 7 hrs (2) 5 hrs  
(3) 6 hrs (4) 7.2 hrs  
(5) None of these
- 19.** Pipes A, B, and C can fill a tank in 12, 15 and 20 hours respectively. If A is open all the time and B and C are open for one hour each alternately, the tank will be full in
- (1) 5 hrs (2) 6 hrs  
(3) 7 hrs (4) 8 hrs  
(5) None of these
- 20.** Two pipes can fill a tank in 10 hours and 12 hours respectively, while the third can empty it in 20 hours. If all the pipes are opened together, then the tank will be filled in
- (1) 9 hrs (2) 8 hrs  
(3) 6 hrs (4) 7.5 hrs  
(5) None of these
- 21.** A tap can fill a cistern in 8 hours and another can empty it in 16 hours. If both the taps are opened simultaneously, the time to fill the cistern will be
- (1) 6 hrs (2) 3 hrs  
(3) 5.33 hrs (4) 4 hrs  
(5) None of these
- 22.** Two pipes A and B together can fill a tank in 4 hours. Had they been opened separately, then B would have taken 6 hours more than A to fill the cistern. How much time will be taken by A to fill the cistern separately?
- (1) 6 hrs (2) 8 hrs  
(3) 7 hrs (4) 9 hrs  
(5) None of these
- 23.** Two pipes can fill a cistern in 20 and 24 minutes respectively and an outlet pipe can empty 3 gallons per minute. All the three pipes working together can fill the tank in 15 minutes. The capacity of the tank is
- (1) 110 gallons (2) 100 gallons  
(3) 80 gallons (4) 120 gallons  
(5) None of these
- 24.** Two pipes can fill the tank in 12 hours and 15 hours respectively. A third pipe can empty it in 20 hours. If the tank is empty and all the three pipes are opened, then the tank will be full (in hours)
- (1) 12 hrs (2) 10 hrs  
(3) 15 hrs (4) 8 hrs  
(5) None of these
- 25.** Pipes A and B can fill a tank in 5 and 6 hours respectively. Pipe C can empty it in 12 hours. If all the three pipes are opened together, then the tank will be filled in
- (1) 30 hrs (2) 20 hrs  
(3) 15 hrs (4) 25 hrs  
(5) None of these
- 26.** Two pipes A and B can fill a tank in 15 minutes and 20 minutes respectively. Both the pipes are opened together but after 4 minutes, pipe A is turned off. What is the total time required to fill the tank?
- (1) 8 hrs (2) 10 hrs  
(3) 12 hrs (4) 7 hrs  
(5) None of these
- 27.** A pump can fill a tank with water in 2 hours. Because of a leak, it took 2.5 hours to fill the tank. The leak can drain all the water of the tank in
- (1) 9 hrs (2) 8 hrs  
(3) 7 hrs (4) 10 hrs  
(5) None of these

28. Two pipes A and B can fill a tank in 20 and 30 minutes respectively. If both the pipes are used together, then how long will it take to fill the tank?
- (1) 10 minutes                      (2) 12 minutes  
(3) 15 minutes                      (4) 18 minutes  
(5) None of these
29. Two inlet pipes take 10 minutes and 20 minutes to fill the tank. But they take 25 min to fill it because of a leak. How much time would the leak take to empty a full tank?
- (1)  $9\frac{1}{11}$  minutes  
(2) 100 minutes  
(3) 10 minutes  
(4)  $2\frac{1}{11}$  minutes  
(5) None of these
30. One tap can fill a cistern in 2 hours and another can empty the cistern in 3 hours. How long will they take to fill the cistern if both the taps are opened?
- (1) 6 hours                      (2) 7 hours  
(3) 6.30 hours                      (4) 8 hours  
(5) None of these
31. A tap can fill a tank in 25 minutes and another can empty it in 50 minutes. Find whether the tank will be filled up or emptied and in how many minutes?
- (1) Tank is filled up in 50 minutes  
(2) Tank is emptied in 25 minutes  
(3) Tank is filled up in 25 minutes  
(4) Tank is filled up in 20 minutes  
(5) None of these
32. A water tank is  $\frac{2}{5}$  th full. Pipe A can fill the tank in 10 minutes and the pipe B can empty it in 6 minutes. If both the pipes are open, how long will it take to empty or fill the tank completely?
- (1) 6 minutes to fill  
(2) 6 minutes to empty  
(3) 8 minutes to fill  
(4) 7 minutes to fill  
(5) None of these
33. Two taps A and B can fill a tank in 10 hours and 15 hours, respectively. If both the taps are opened together the tank will be full in
- (1) 8 hours                      (2) 6 hours  
(3) 5 hours                      (4) 7 hours  
(5) None of these
34. Two pipes A and B can separately empty a cistern in 12 hours and 15 hours, respectively. In what time will the cistern be emptied, if both the pipes are opened together?
- (1) 5 hours 30 minutes  
(2) 7 hours  
(3) 6 hours 40 minutes  
(4) 7 hours 20 minutes  
(5) None of these
35. Two pipes can fill a tank in 10 hours and 12 hours, respectively. While a third pipe emptied the full tank in 20 hours. If all the three pipes operate simultaneously, in how much time the tank will be filled?
- (1) 7 hours 30 minutes  
(2) 6 hours 40 minutes  
(3) 8 hours 30 minutes  
(4) 6 hours 20 minutes  
(5) None of these
36. Three pipes A, B and C can fill a cistern in 10, 12 and 15 hours, respectively, while working alone.

If all the three pipes are opened together, the time taken to fill the cistern will be

- (1) 4 hours (2) 6 hours  
(3) 7 hours (4) 8 hours  
(5) None of these

37. Two pipes A and B can fill a cistern in 24 minutes and 30 minutes, respectively. There is also an outlet C. If all the three pipes are opened together, the cistern is full in 20 minutes. How much time will be taken by C to empty the full cistern?

- (1) 30 minutes (2) 40 minutes  
(3) 45 minutes (4) 20 minutes  
(5) None of these

38. A cistern is normally filled in 8 hours but takes 2 hours longer to fill because of a leak in its bottom. If the cistern is full, the leak will empty it in

- (1) 35 hours (2) 45 hours  
(3) 40 hours (4) 42 hours  
(5) None of these

39. A cistern has a leak which would empty in 8 hours. A tap is turned on which admits 6 litres a minute into the cistern and it is now emptied in 12 hours. The cistern can hold

- (1) 6840 litres (2) 7860 litres  
(3) 8640 litres (4) 6850 litres  
(5) None of these

40. 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 the faster pipe take to fill the reservoir?

- (1) 35 hours (2) 30 hours  
(3) 40 hours (4) 45 hours  
(5) None of these

41. One fill pipe A is 3 times faster than second fill pipe B and takes 32 minutes less than the fill pipe B. When will the cistern be full if both pipes are opened together?

- (1) 28 minutes  
(2) 24 minutes  
(3) 30 minutes  
(4) Data inadequate  
(5) None of these

## ANSWERS

1.	2	8.	1	15.	1	22.	1	29.	1	36.	1
2.	4	9.	2	16.	3	23.	1	30.	1	37.	2
3.	1	10.	4	17.	3	24.	2	31.	1	38.	3
4.	3	11.	2	18.	4	25.	1	32.	2	39.	3
5.	2	12.	2	19.	1	26.	2	33.	2	40.	2
6.	2	13.	3	20.	4	27.	4	34.	3	41.	2
7.	1	14.	2	21.	3	28.	2	35.	1		