

Pipes and Cistern

Worksheet

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Practice Questions

1. A tank can be filled by pipe A in 5 hours and by pipe B in 6 hours. If both pipes are opened together, how long will it take to fill the tank?
2. A tank has two inlet pipes and one outlet pipe. The first inlet pipe can fill the tank in 4 hours, while the second can fill it in 6 hours. The outlet pipe can empty the full tank in 12 hours. If all pipes are opened simultaneously, how long will it take to fill the tank?
3. Pipe A can fill a tank in 10 hours, while pipe B can empty it in 15 hours. If both pipes are opened simultaneously, how long will it take to fill the tank?
4. A cistern has three pipes. The first two can fill it in 10 hours and 12 hours respectively, while the third can empty it in 15 hours. If all pipes are opened together, how long will it take to fill the cistern?
5. A tank can be filled by pipe A in 6 hours and emptied by pipe B in 8 hours. If both pipes are opened when the tank is empty, how long will it take to fill the tank?
6. Pipe A can fill a tank three times as fast as pipe B. If they can fill the tank together in 36 minutes, how long will it take pipe B alone to fill the tank?
7. Two pipes can fill a tank in 15 hours and 12 hours respectively. Both pipes are opened for 4 hours, then the first pipe is closed. How long will it take for the second pipe to complete filling the tank?
8. A tank has an inlet pipe and an outlet pipe. The inlet pipe can fill the tank in 4 hours, and the outlet pipe can empty it in 6 hours. If both pipes are opened when the tank is half full, how long will it take to empty the tank completely?
9. Three pipes A, B, and C can fill a tank in 6 hours, 8 hours, and 12 hours respectively. If all pipes are opened together, how long will it take to fill the tank?
10. A cistern has two inlet pipes and one outlet pipe. The inlet pipes can fill the cistern in 8 hours and 12 hours respectively, while the outlet pipe can empty it in 6 hours. If all pipes are opened when the cistern is empty, how long will it take to fill $\frac{3}{4}$ of the cistern?