Pipes and Cistern

Three pipes A, B, and C can fill the tank in 10 hours, 20 hours and 40 hours respectively. In how many hours tank will be full if all pipes open together ?

A) 15 Hours
B) 12 Hours
C) 7 Hours
D) 40/7 Hours
E) 20/3 Hours

40

A = 10 — 4

B = 20 — 2

C = 40 — 1

7

$A+B+C = \frac{40}{7}$

Two inlet pipes can fill an empty tank in 15 and 18 hours and one outlet pipe can empty the tank in 20 hours. If all the pipes opened simultaneously, then how many hours required fill the full tank?

A. 11 hours
B. 12 hours
C. 13 hours
D. 9 hours
E. None of these

180

A = 15 —— +12
B = 18 —— +10
C = 20 —— −9

+13

$\Rightarrow \frac{180}{13} = 13\frac{11}{13}$

Two pipes A and B alone can fill an empty tank in 20 min and 24 min respectively. Two pipes are opened simultaneously, after some time pipe B is closed. In how many minutes after pipe B is closed if the tank was filled in 15 minutes

120

A. 5 min
B. 6 min
C. 4 min
D. 4.5 min
E. None of these

$A = 20 \text{ —— } 6$

$B = 24 \text{ —— } 5$

$[A \times 15] + [B \times x] = 120$

$90 + 5x = 120$

$5x = 30$

$\boxed{x = 6}$

A tank has a leak which can empty a full tank in 28 minutes. A tap is turned on which can fill 2.5 liters a minutes. The tank now becomes empty in 42 minutes. What is the capacity of the tank?

A. 210 liters
B. 342 liters
C. 250 liters
D. 389 liters
E. None of these

84

$-A = 28$ —— -3

$+B = 84$ —— 1

$A - B = 42$ —— -2

$\Rightarrow 84 \times 2.5 = 42 \times 5 =$ 210 liter

Two pipes A and B can fill a tank in 15 minutes and 25 minutes respectively. Both pipes are opened together and pipe B isclosed,5 minutes before the tank is filled completely. Calculate the total time required to fill the tank?

A. 11 ¼ min
B. 13 min
C. 12 min
D. 14 min
E. None of these

Pipe P can fill an empty tank in 24 hours and pipe Q can fill the same tank in 16 hours. How many hours required to fill the whole tank, if P and Q fill alternatively doing the work, P begins on first hour?

A. 17
B. 19
C. 18
D. 18
E. None of these

Three pipes A, B and C can fill a tank in 10 hours. After working at it together for 3 hours, C is closed and A and B can fill the remaining part in 14 hours. How much time taken by C to fill the tank alone?

A. 18 hours
B. 20 hours
C. 24 hours
D. 22 hours
E. None of these

A piece of work has to be completed in 60 days, a number of men are employed but it is found that only half of the work is done in 40 days, then an additional 30 men were joined to complete the work on time. Initially how many men are there to work?

a) 30 men
b) 26 men
c) 24 men
d) 34 men
e) None of these

Pipe B is two times efficient as pipe C. Pipe A and B together can fill an empty tank in 8 4/7 hours. Pipe A and C together can fill the same tank in 12 hours. In how many hours required filling by pipe B alone?

A. 15
B. 12
C. 20
D. 30
E. 10

Pipe A and B can fill an empty tank in 8 hours. Pipe B and C together can fill the same tank in 9 3/5 hours. Pipe A opened for first one hour, Pipe B opened for second one hour and pipe C opened for third one hour and this process is repeated until the tank filled completely. How many hours required filling half of the tank if A is twice efficient as B?

A. 10 hrs
B. 12 hrs
C. 6 hrs
D. 9 hrs
E. 8 hrs

A Special pump can be used for filling as well as for emptying a Cistern. The capacity of the Cistern is 2400m^3. The emptying capacity of the Cistern is 10m^3 per minute higher than its filling capacity and the pump needs 8 minutes lesser to Cistern the tank than it needs to fill it. What is the filling capacity of the pump?

A. 40m^3/min
B. 50m^3/min
C. 60m^3/min
D. 30m^3/min
E. None of the Above

Three pipes A, B, and C can fill the tank in 10 hours, 20 hours and 40 hours respectively. In the beginning all of them are opened simultaneously. After 2 hours, tap C is closed and A and B are kept running. After the 4th hour, tap B is also closed. The remaining work is done by tap A alone. What is the percentage of the work done by tap A alone?

A.30 %

B. 35 %

C. 45 %

D. 50 %

E. None of the Above

Two taps can separately fill a cistern in 10 minutes and 15 minutes respectively. If these two pipes and a waste pipe are kept open simultaneously, the cistern gets filled in 18 minutes. The waste pipe can empty the full cistern in

A) 7 minutes
B) 13 minutes
C) 23 minutes
D) 9 minutes
E) 10 Minutes

A pipe can fill a cistern in 12 minutes while a second pipe fills it in 15 minutes. But a third pipe can empty that completely filled cistern 16 minutes. The first two pipes are kept open for 5 minutes initially and then the third one is also opened. Then the further time (in minutes) taken to empty that cistern is ?

A) 30
B) 40
C) 45
D) 50
E) 25